Aston 3B

Operating Instructions

Aston 3B
Video Character Generator

ASTON 3B
VIDEO CHARACTER GENERATOR

Contents

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OPERATING INSTRUCTIONS

1.   INTRODUCTION

With the exception of just two switches in the Main Frame unit (the functions of which will be described to you later), the ASTON 3B Video Character Generator is controlled entirely by the ASTON 3B Keyboard.

The Keyboard comprises a standard QWERTY character entry keyboard (or national equivalent), a set of editing and operational keys, a numerical keypad, and a small joystick and luminance control. You will find that most of the keys are operated in exactly the same way that ordinary typewriter keys are operated - by pressing and then immediately releasing. Most of the editing and mode selection keys, however, have to be pressed and held down whilst another key is operated.

2.   POWER ON

To switch on the Main Frame unit first open the front drop down panel and operate the mains on/off switch. The mains on/off switch is located behind a small cut out just to the right of the Analogue Card at the top right hand corner. The ASTON 3B is operational within five seconds of switch-on.

The Keyboard is operational as soon as mains power is applied to the rear mounted mains input socket and the rear mounted switch is in the 'on' position. A small red light on the front indicates when the Keyboard is on.

IMPORTANT: As a precaution against corrupting pre-recorded data, before switching the mains on or off, reject any disk resident in the Disk Drive Unit.

3.   THE EDIT DISPLAY

Within five seconds of switch-on your Edit Monitor will display a SAFE TITLE AREA which is represented by a large bright rectangle, a CURSOR and a row of text at the bottom of the screen which is called the SYSTEM STATUS ROW, see Fig. 1.

3.1. *The Safe Title Area*

The SAFE TITLE AREA has been set to cover 80% of the picture area and is displayed for your guidance only. You can compose your caption to start and/or finish just outside the SAFE TITLE AREA if you wish, but you are advised to stay within the SAFE TITLE AREA to conform with normal codes of practice.
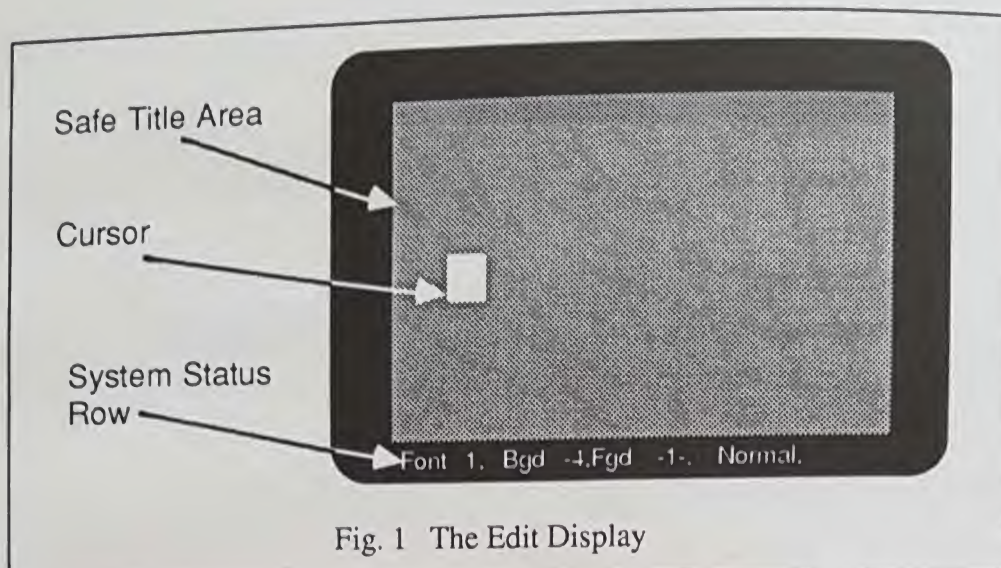
Fig. 1   The Edit Display

3.2.   *The Cursor*

The CURSOR serves two purposes. It indicates the exact location of the next character you enter and it determines which row, word or character is manipulated when you operate the edit keys. You can move the Cursor around the screen by operating the Cursor Shift keys. These are positioned in the numerical keypad to the right of the Keyboard.

3.3   *The System Status Row*

The SYSTEM STATUS ROW displays various pre-programmed messages to assist you when operating the ASTON 3B. For example, it will tell you which font you have selected, which mode of operation you are in, and the page number of the 'next' caption on the disk, etc.

All examples of System Status Row messages in this manual will be shown within a black border, as per Fig. 2, below.

To recall the message relating to editing i.e. font and colour information as per Fig.2, press the Cursor Home key (see Section 5) or any editing key. To recall the message relating to the disk, eg. page number, press the PAGE NUMBER/TRACK key (see Section 4 (e).

Font 1,   Bgd BLK,   Fgd -1-,   Normal
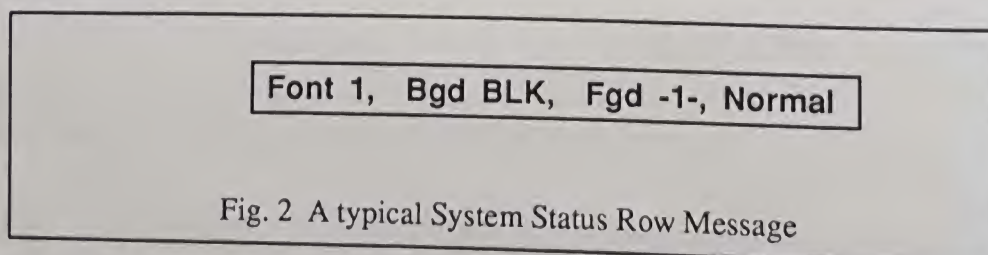
Fig. 2 A typical System Status Row Message

4.   FONT LOADING

The first thing that must be done before operating the ASTON 3B is to input up to four fonts into the character generator's font memory.

Supplied with the ASTON 3B are several 3 1/2 " Micro Floppy Disks. One of these is labelled "ASTON 3B Standard Font Disk" and it contains a selection of 20 display fonts. All ASTON 3B's are supplied with the same selection of display fonts.

The "ASTON 3B Standard Font Disk" is accompanied by a card which lists the display fonts on the disk. Down the left hand side of the card are the Track Numbers

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for each display font and these are used to tell the character generator where the display fonts are on the disk. Use the following procedure to load up to four display fonts into the Font Memory:-

(a) Press the small black rectangular push button that's in the top right corner of the Disk Drive. This will eject any disk that may already be in the disk drive.

(b) Insert the disk labelled "ASTON 3B Standard Font Disk" into the disk drive, metal end first, label side to the left. Push the disk in as far as it will go until it 'clicks' and the eject button comes out.

(c) Refer to the card which came with the font disk and note the TRACK NUMBER of the fonts you wish to load into Font Memory. Also calculate if there is enough room in the Font Memory for the fonts you have chosen. You do this by adding together the FONT FACTORS, which you find down the right hand side of the card, to see if they exceed 16384. If they do then the ASTON 3B will accept as many character elements as it can but the last font you load will not contain a complete character set.

(d) Press and hold down the **FONT** key (this is located on the left hand side of the Keyboard) and operate the **L** key (for Load). As soon as you release the **L** key the System Status Row at the bottom of your Edit Monitor will display: **Font 1 TRACK ?0.** This indicates that the ASTON 3B is waiting for you to enter the TRACK NUMBER of the first font.

(e) Press and hold down the **TRACK** key (this is the black key at the top left hand corner of the keyboard which has the words TRACK on its side and PAGE NUMBER on its top), and enter the Track Number of the first font by operating the appropriate numerical keys in the numerical keypad. As soon as you have entered the desired Track Number, release the **TRACK** key. After about three seconds the System Status Row will display:- **Font 2 TRACK ?0.** This indicates that the first font has been loaded correctly and that you can go on and load the next font. However, if the System Status Row is displaying the words DISK NOT READY, DISK ERROR or DATA ERROR this will mean that the font has not been loaded correctly, either because the disk has been inserted into the Disk Drive incorrectly, the wrong Track Number has been entered or that the Font Disk has been damaged.

PLEASE NOTE: During Font Loading procedure, you can return to the normal display mode at any time - for example if you have less than 4 fonts to load - by simply operating the **FONT** key with the **X** key.

(f) After you have loaded the fourth font into the Font Memory, the System Status Row will display either:- Next Page XXX, Normal, (XXX = page No.), or Memory Full. If it is displaying **Memory Full,** this will mean that
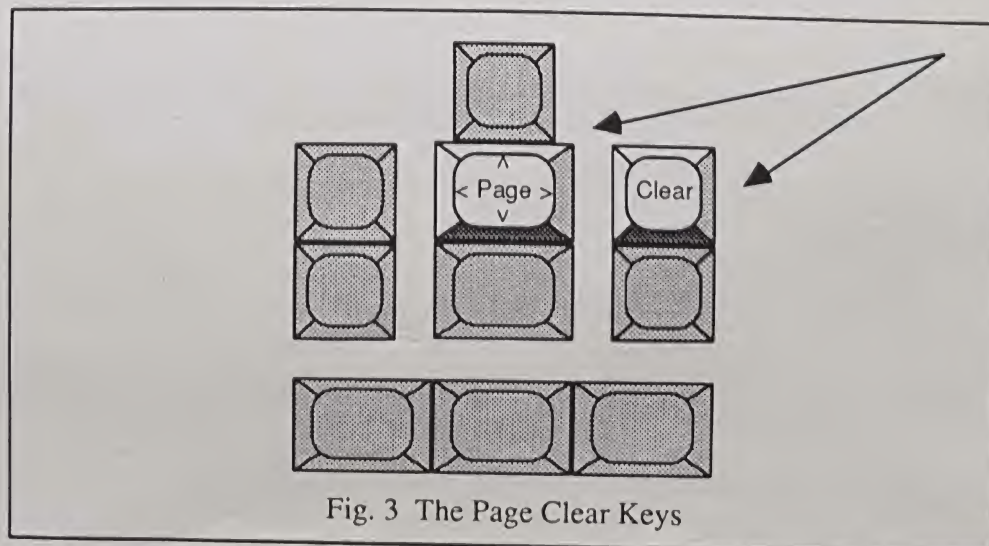

Fig. 3 The Page Clear Keys

the total element count has exceeded 16384 and that the last font does not contain a complete set of characters.

IMPORTANT:

Before you compose your first caption the internal RAM memories must be cleared of any random data. Do this by operating the **CLEAR** key with the **PAGE** key. As soon as this operation has been carried out, the Cursor will change to a size which is appropriate for the size of characters loaded into Font One and will move to the top left hand corner of the Safe Area, see Fig. 3.

5. CURSOR SHIFT KEYS

The Cursor Shift keys will enable you to move the Cursor to any position within the Working Area. You will find them amongst the numerical keys on the right hand side of the Keyboard, as shown in Fig. 4.

Cursor Down: The Cursor can be moved down the Working Area one row at a time by operating the Cursor Down key. If you hold the Cursor Down key down for more that half a second its operation will be automatically repeated until it is released. When the Cursor reaches Row 21, any attempt to move the Cursor down further will only result in the words Limit of Travel being displayed in the System Status Row.
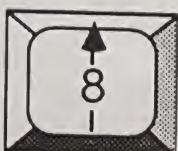
Cursor Up: The Cursor can be moved up the Working Area one row at a time by operating the Cursor Up key. If you hold the Cursor Up key down for more than half a second its operation will be automatically repeated until it is released. When the Cursor reaches the top row, any attempt to move the Cursor up further will only result in the words Limit of Travel being displayed in the System Status Row.
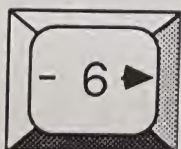
Cursor Right: The Cursor can be moved one character location at a time towards the right hand side of the Working Area by operating the Cursor Right key. If you hold the Cursor Right key down for more than half a second its operation will be automatically repeated. If you operate the Cursor Right key when the Cursor is in the last character location, the Cursor will automatically Line Feed and Carriage Return. If you operate the Cursor Right key when the Cursor is in the last character location in Row 21, the words Limit of Travel will be displayed in the System Status Row.
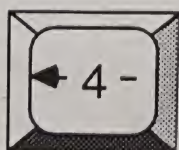
Cursor Left: The Cursor can be moved one character location at a time towards the left hand side of the Working Area by operating the Cursor Left key. If you hold the Cursor Left key down for more than half a second its operation will be automatically repeated. If you operate the Cursor Left key when the Cursor is in the first character position, the Cursor will automatically move up to the next row and re-appear on the right hand side of the Working Area. If you operate the Cursor Left key when the Cursor is in the top left hand corner the words Limit of Travel will appear in the System Status Row and the Cursor will move to the last character location in the top row.
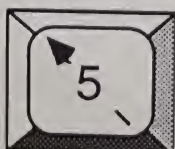
Cursor Home: The Cursor can be moved to the top left hand corner of the Safe Title Area from any location within the Working Area by operating the Cursor Home key.
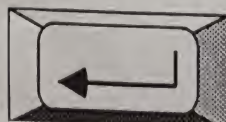
Line Feed-Carriage Return: The Cursor can be moved down by one row and at the same time positioned just inside the left hand side of the Safe Title Area by operating the Line Feed-Carriage Return key. If you operate the Line Feed-Carriage Return key when the Cursor is in Row 21, the Cursor will move to the left hand side of the Safe Title Area and the words Limit of Travel will appear in the System Status Row.
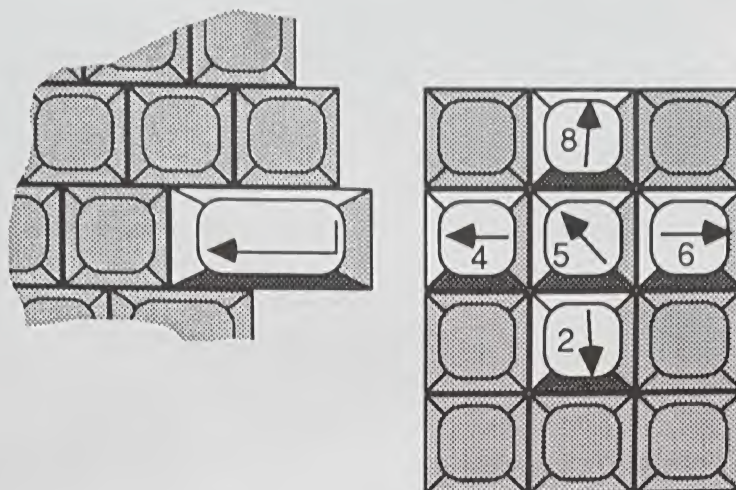
Fig. 4 The Cursor Shift Keys

6.   FONT SELECTION

Immediately following a FONT LOAD sequence, the ASTON 3B is programmed to automatically select Font One. You can select other fonts for display on a word by word basis by pressing and holding down the **FONT** key and operating the appropriate numerical key, 1 to 4. (See Fig. 5). The font which you select, i.e. the character style of the next word or letter you enter, is shown in the System Status Row as Font 1, Font 2, Font 3 or Font 4.
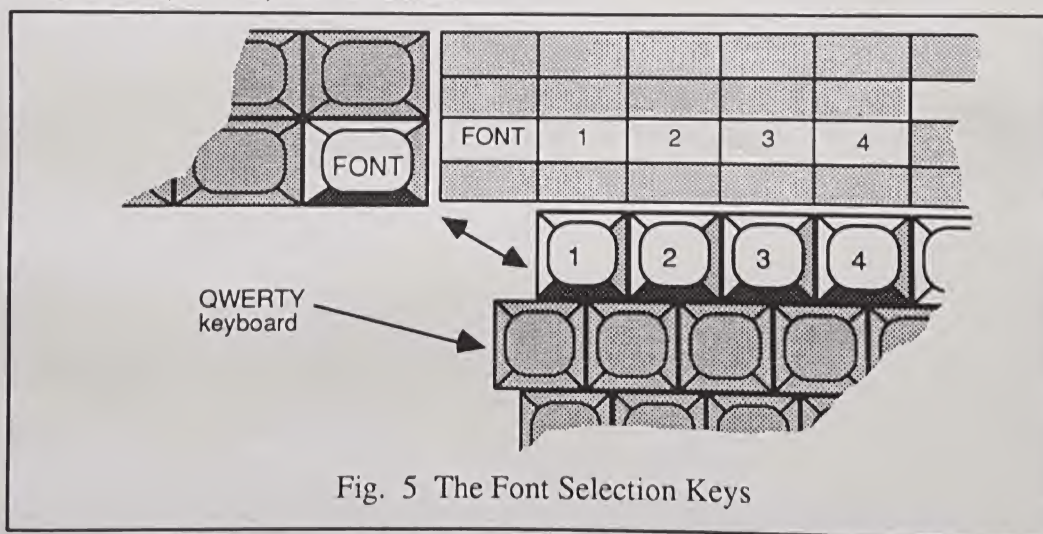
Fig. 5 The Font Selection Keys

7.   FONT CHANGE

Having entered a row of text, you can instantly swap the font(s) you used with any other font in the Font Memory without having to retype any of the text. To do this, first position the Cursor on the row, move it to the first character location, select the new font as described in Section 6, press and hold down the **FONT** key and operate the **FONT CHANGE** key as shown in Fig. 6. Please note that this facility will only work with text which is to the right of the Cursor.

8.   THE ALPHA- NUMERIC KEYBOARD

Each alpha-numeric and punctuation key will, when depressed, display a character where the Cursor is located, according to the symbol engraved on the keytop.
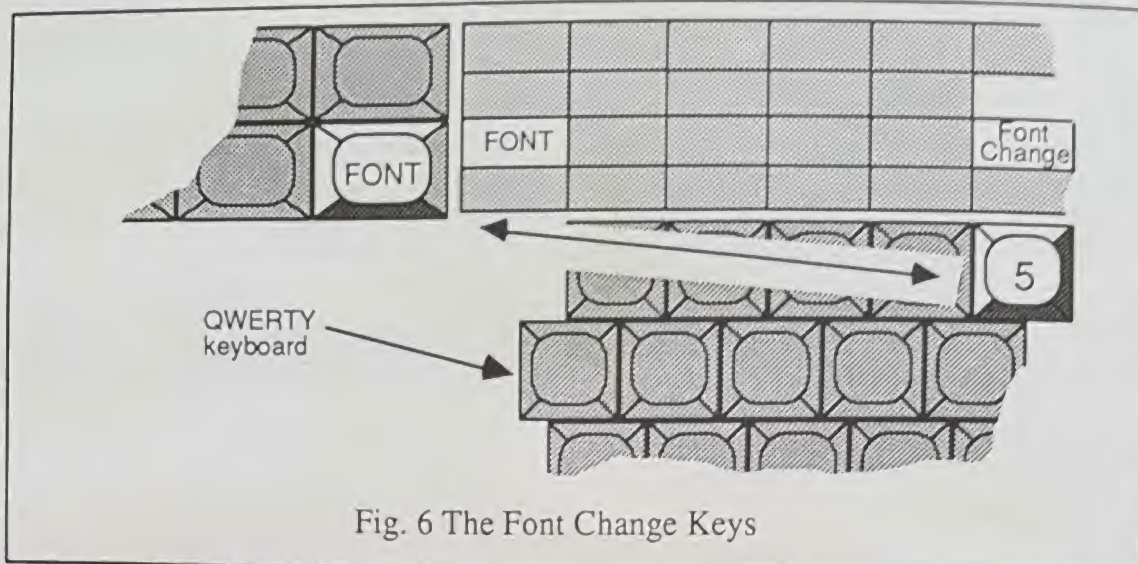
Fig. 6 The Font Change Keys

9. CHARACTER INSERT

Additional characters or words may be added to a caption by using the CHARACTER INSERT keys. See Fig. 7. First position the Cursor over the point where you wish to insert additional characters, press and hold down the **CHARACTER** key and operate the **INSERT** key. A space will be created every time you operate the INSERT key and all text to the right of the Cursor will move one space to the right. You can now use the created spaces for your additional characters.
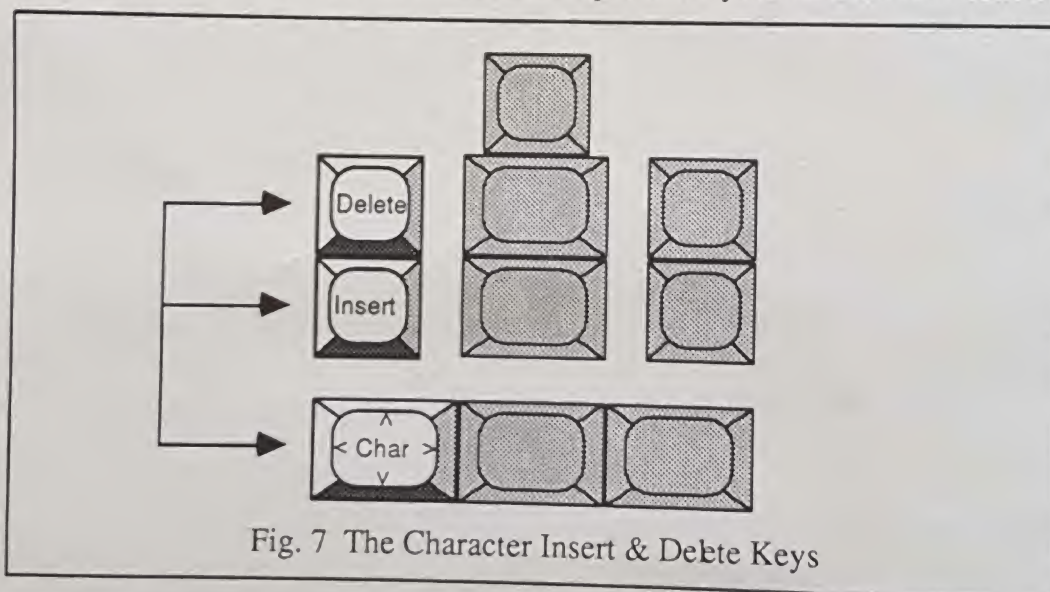
Fig. 7 The Character Insert & Delete Keys

10. CHARACTER DELETE

Characters may be deleted from words using the CHARATER DELETE key, See Fig. 7. First position the Cursor over the character you wish to delete, press and hold down the **CHARACTER** key and operate the **DELETE** key.

11. ROW SHIFT

Individual rows of text can be shifted around the screen by use of the **ROW** key and up, down, left or right Cursor Shift keys. See Fig. 8.

First position the Cursor on the row you wish to shift, press and hold down the **ROW** key and operate the appropriate Cursor Shift key. Every time you operate the Cursor Shift key, the row will move one space to the left or right, or one row up or down. If you hold the **ROW** key and Cursor Shift key down for more than half a second, row shift will automatically be repeated.

When shifting a row of text left or right, any character which disappears off the left or right edges of the screen will be automatically erased from the page memory.

A row of text can also be shifted up or down the screen without erasing any row that it passes over. This facility will be found useful when the sequence in which the rows are displayed have to be quickly changed. Any row which is shifted up or down the screen will automatically stop when it reaches the top or bottom of the 'Working Area'. When this happens Limit of Travel will be displayed in the System Status Row.

Fig. 8 The Row Shift Keys
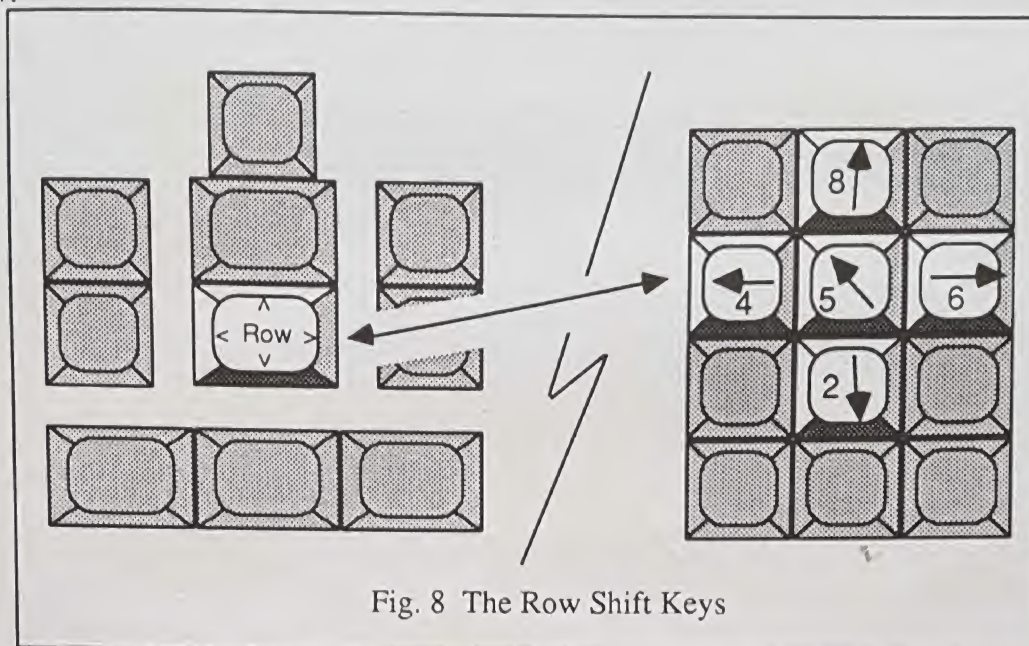
12.   ROW CENTRE

Any row of text can be automatically centred by operating the **ROW** key and **CENTRE** key together, see Fig. 9.

First position the Cursor on the row you wish to centre, press and hold down the **ROW** key and operate the **CENTRE** key.

Fig. 9   The Row Centre Keys
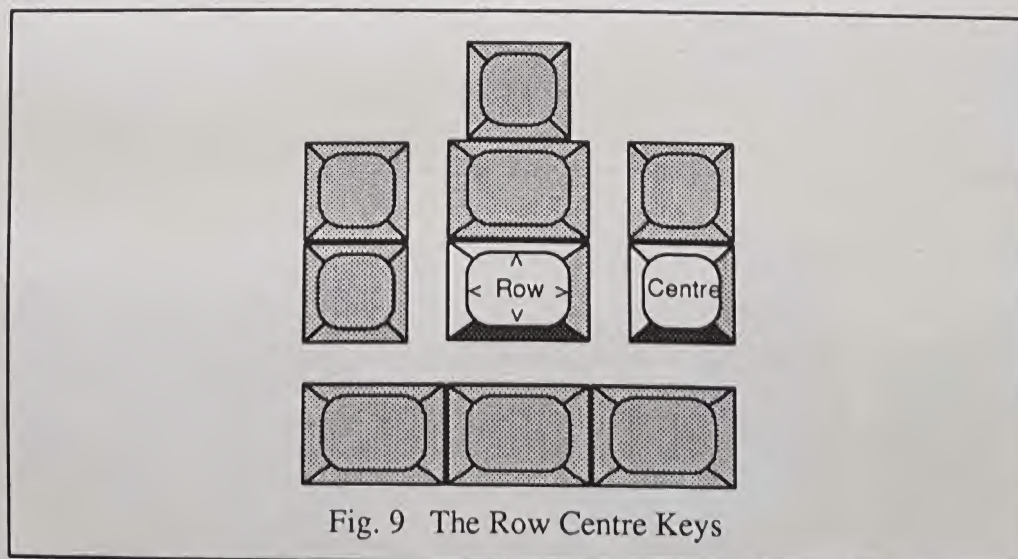
13.   PAGE CENTRE

The whole page of text can be automatically centred by operating the **PAGE** key and the **CENTRE** key together, see Fig. 10.

Position the Cursor anywhere on the screen, press and hold down the **PAGE** key and operate the **CENTRE** key.

Fig. 10   The Page Centre Keys
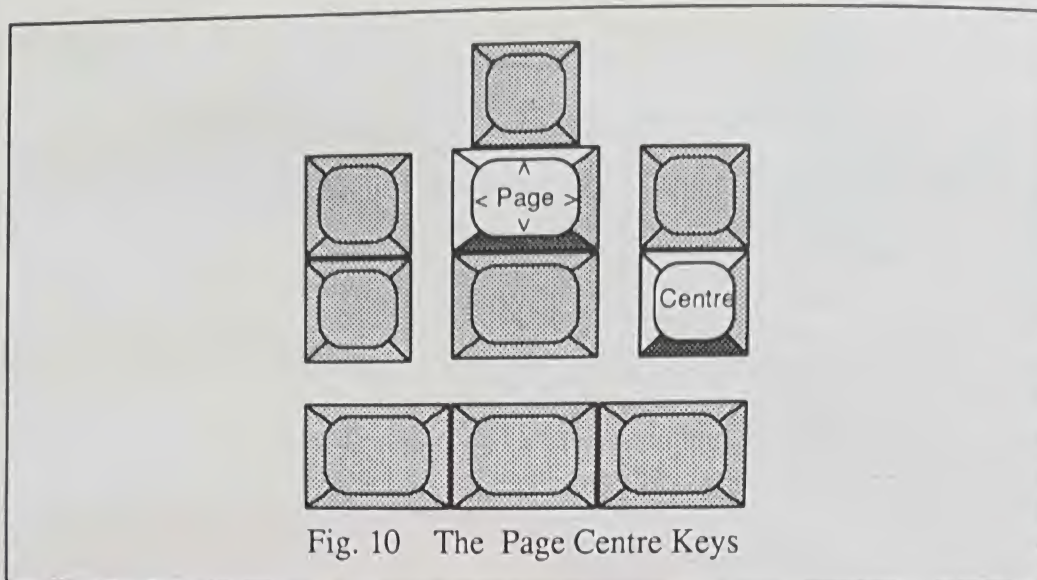
14.   INCREMENTAL ROW SHIFT

Individual rows of text can be incrementally moved left, right, down and back up, by operating the **δ ROW** key together with an appropriate Cursor shift key, see Fig. 11.

First position the Cursor on the row you wish to incrementally shift, press and hold down the **δ ROW** key and operate the Cursor Shift key. Every time you operate a Cursor Shift key, the row will shift horizontally in 31.25 nanosecond increments or vertically in line pair increments. If you hold the **δ ROW** key and Cursor Shift key down for more than half a second the operation will be automatically repeated until you release one or both of the keys.

When you incrementally shift a row down or back up again all those rows which are below the Cursor row will incrementally shift down or up in sympathy. This means that if you position the Cursor in the top row you can shift the whole page up and down in line pair increments.

The maximum vertical shift is 32 line pairs, and the maximum horizontal shift is - 2 microseconds in 64 increments of 31.25 nanoseconds. Limit of Travel will be displayed in the System Status Row when the maximum amount of incremental row shift is reached.

Fig. 11   The Incremental Row Shift Keys
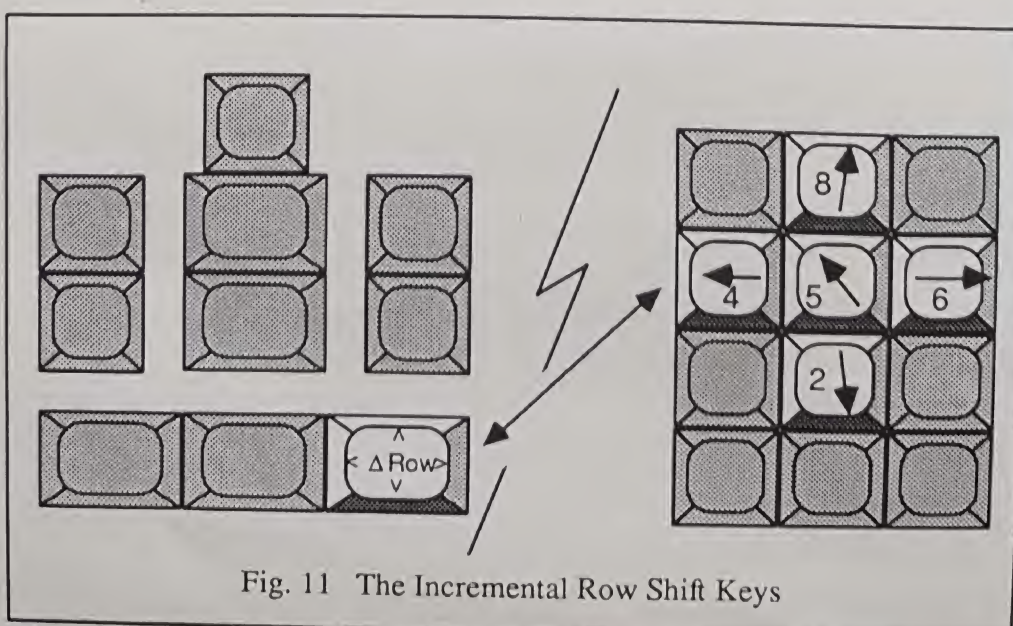
15. ROW INSERT

Additional rows of text can be inserted between existing rows of text by operating the **ROW** key and **INSERT** key together, see Fig. 12.

First position the Cursor on the row where you wish to insert an additional row of text, press and hold down the **ROW** key and operate the **INSERT** key. Each time you operate the INSERT key, the row of text on which the Cursor was positioned and all rows below it will be moved down by one row, thus creating a blank row for your additional row of text.
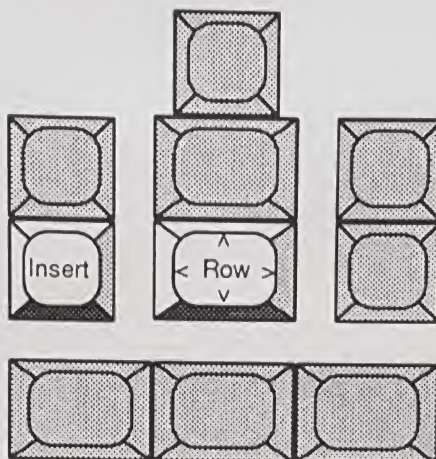
Fig. 12   The Row Insert Keys

16. ROW CLEAR

Individual rows of text can be cleared by operating the **ROW** key and **CLEAR** key together. See Fig. 13.

First position the Cursor on the row you wish to clear (erase), press and hold down the **ROW** key and operate the **CLEAR** key. As soon as you operate the **CLEAR** key, the Cursor row will be erased, the Cursor will move to the left hand side of the Safe Area and all those rows of text which are below the Cursor row will move up by one row.
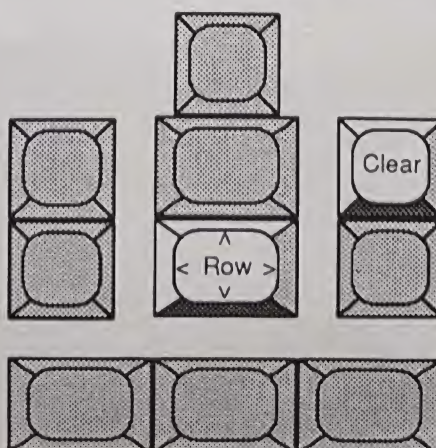
Fig. 13   The Row Clear Keys

17.   ROW DELETE

All text in a row which is to the right of the Cursor can be deleted by operating the **ROW** key and **DELETE** key together. See Fig. 14.

First position the Cursor to the left of the text you wish to delete, press and hold down the **ROW** key and operate the **DELETE** key. As soon as you operate the DELETE key all the text to the right of the Cursor, including the character the Cursor is positioned over, will be deleted. If you wish to delete the whole row then position the Cursor over the first character.

Fig. 14   The Row Delete Keys
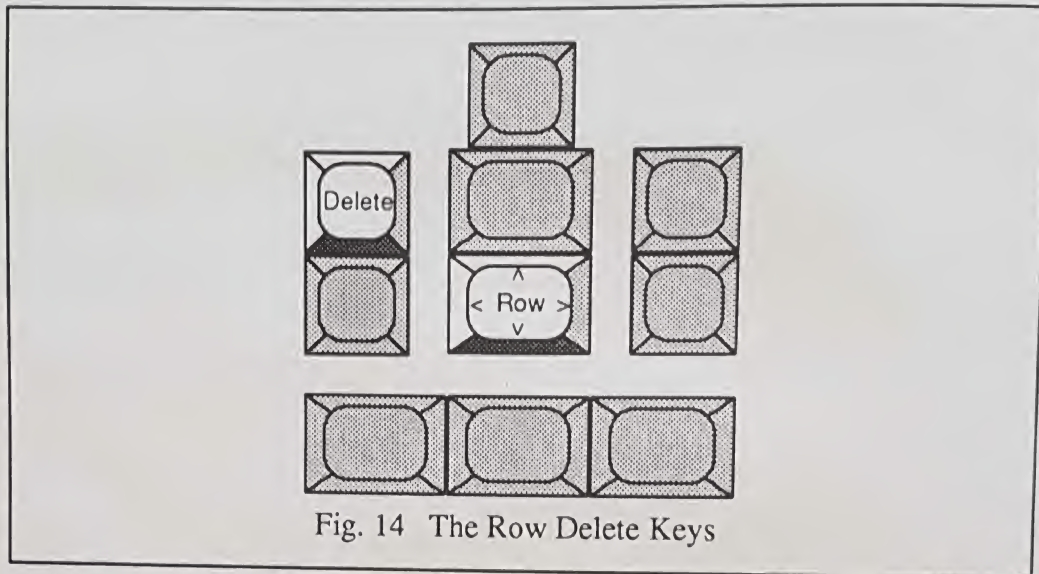
18.   WORD SPACE COMPRESS AND EXPAND

The space between any two words can be compressed or expanded by operating the **CHARACTER** key with either the Cursor Left key (for compress) or the Cursor Right key (for expand).

First position the Cursor in the space between the two words you wish to bring closer together or to place further apart, press and hold down the **CHARACTER** key and operate the appropriate Cursor key. Every time you operate the Cursor Left key or the Cursor Right key, the right hand word will move closer to or further from the left

Fig. 15 The Word Compress & Expand Keys
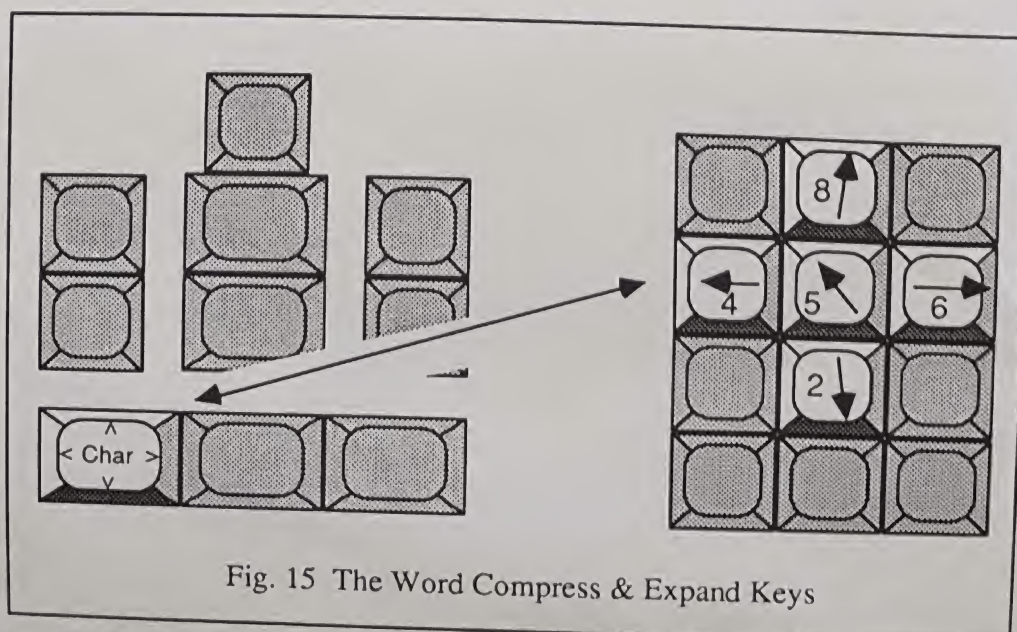
hand word in 124 nanosecond increments, and at the same time all those words which are to the right of the right hand word will move in sympathy.

Limit of Travel will be displayed in the System Status Row when you reach the maximum amount of incremental shift.

19.   ROW COMPRESS AND EXPAND

All the inter-word spaces to the right of the cursor in any row can be simultaneously compressed or expanded in 124 nanosecond increments by operating the **ROW COMPRESS** key with either the Cursor Left key (for compress) or the Cursor Right key (for expand).

Simply position the Cursor in the row that you wish to compress or expand, press and hold down the **ROW COMPRESS** key and operate the appropriate Cursor Left or Right key. Every time you operate the Cursor Left key or the Cursor Right key all the spaces in the row which are to the right of the cursor will either compress or expand in 124 nanosecond increments. You will find this facility particularly useful when page justification is required.

When you have achieved the maximum amount of row compression or expansion, the words Limit of Travel will be displayed in the System Status Row.

NOTE: You can increase the space between any two words still further by placing the Cursor in the space and then operating the Character Insert facility, as described in Section 9.

Fig. 16 Row Compress & Expand Keys
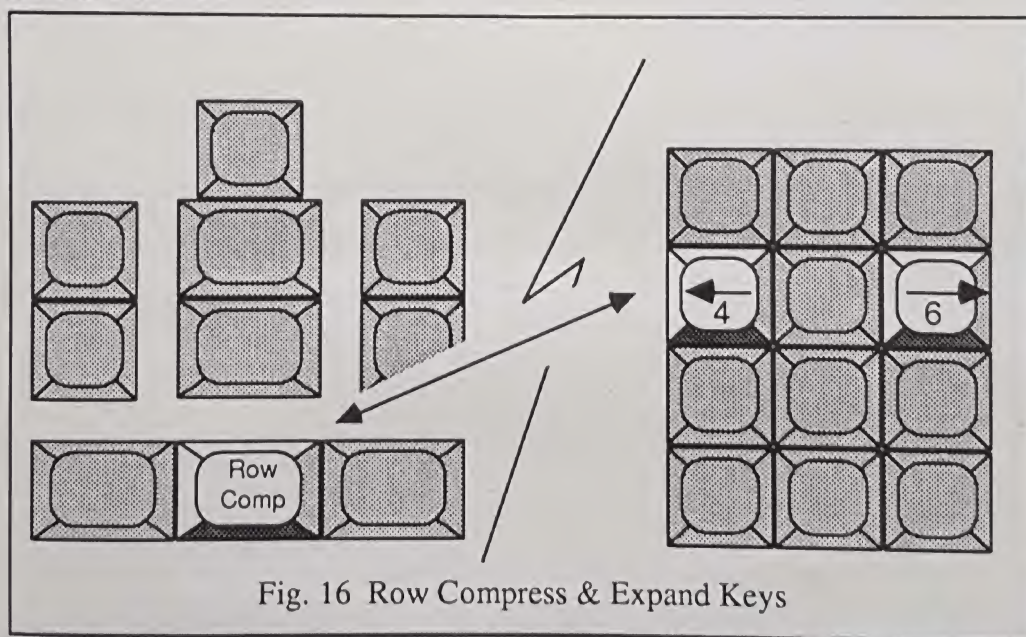
20.   RIGHT JUSTIFICATION

The Right Justification facility will enable you to automatically shift the Cursor Row and all the rows of text which are below the Cursor Row to a point where the last character in each row is vertically aligned with the left hand side of the Cursor itself. The Right Justification facility will have no effect upon text which is positioned above the Cursor row.

First place the Cursor in the appropriate row, move it along the row and position it at the point where you want your text to be justified, press and hold down the PAGE key and operate the Cursor Right key.

IMPORTANT: The Right Justification facility will only work correctly if you have made sure that there is enough room to the left of the Cursor to accommodate all the text.
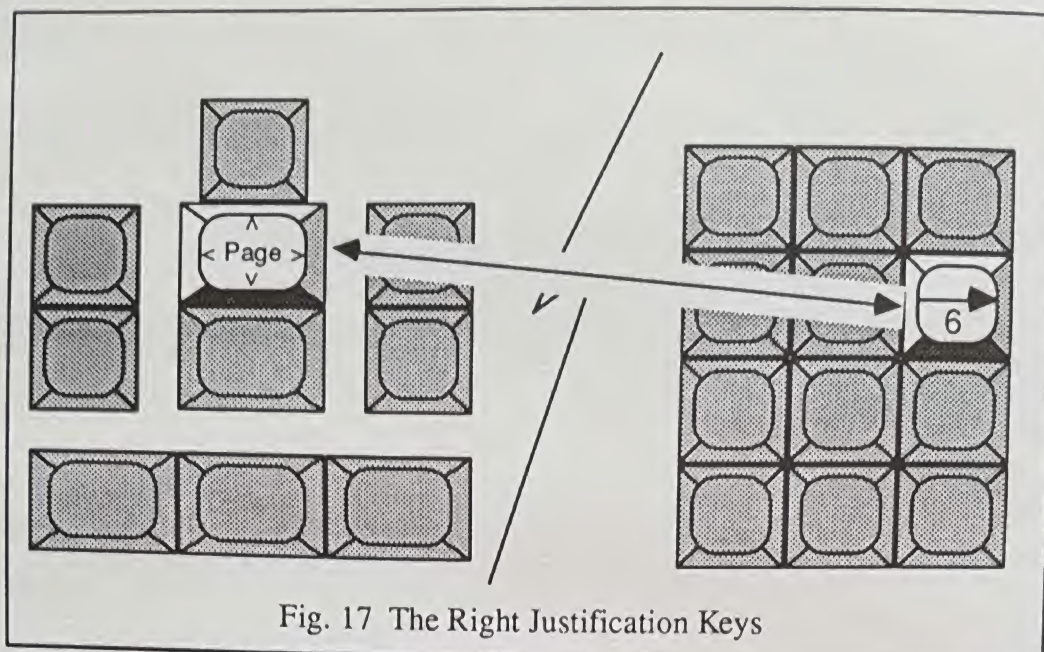
Fig. 17 The Right Justification Keys

21.   LEFT JUSTIFICATION

The Left Justification facility will enable you to automatically shift the Cursor row and all the rows of text which are below the Cursor row to a point where the first character in each row is vertically aligned with the left hand side of the Cursor itself. The Left Justification facility will have no effect upon text which is above the Cursor row.

First place the Cursor in the appropriate row, move it along the row and position it at the point where you want your text to be justified, press and hold down the PAGE key and operate the Cursor Left key.

IMPORTANT: The Left Justification facility will only work correctly if you have made sure that there is enough room to the right of the Cursor to accommodate all the text.
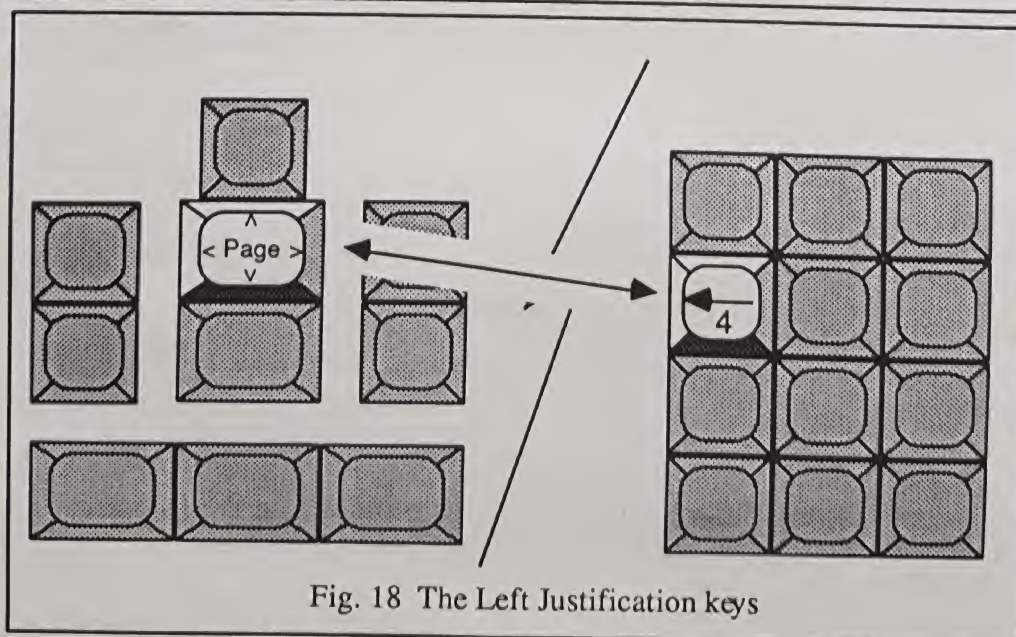
Fig. 18 The Left Justification keys

22.   CHARACTER OVERLAP

Characters can be moved closer together or overlapped by operating the **CHARACTER** key and the Cursor Left key. See Fig. 19. This will enable A's and W's, for example, to appear aesthetically correct when displayed together.

First position the Cursor over the left hand of the two characters that you wish to bring closer together, press and hold down the CHARACTER key and operate the Cursor Left key. Each time you operate the Cursor Left key, all those characters which are to the right of the Cursor will move to the left in 124 nanosecond increments. Up to seven such increments are available for each character. You will find, however, that certain character combinations can only be overlapped by one or two increments before they and other characters in the row begin to break up. When this happens simply press and hold down the CHARACTER key and operate the Cursor Right key.

Limit of Travel will be displayed in the System Status Row when the maximum amount of character shift has been reached.

Fig. 19 Character Overlap Keys
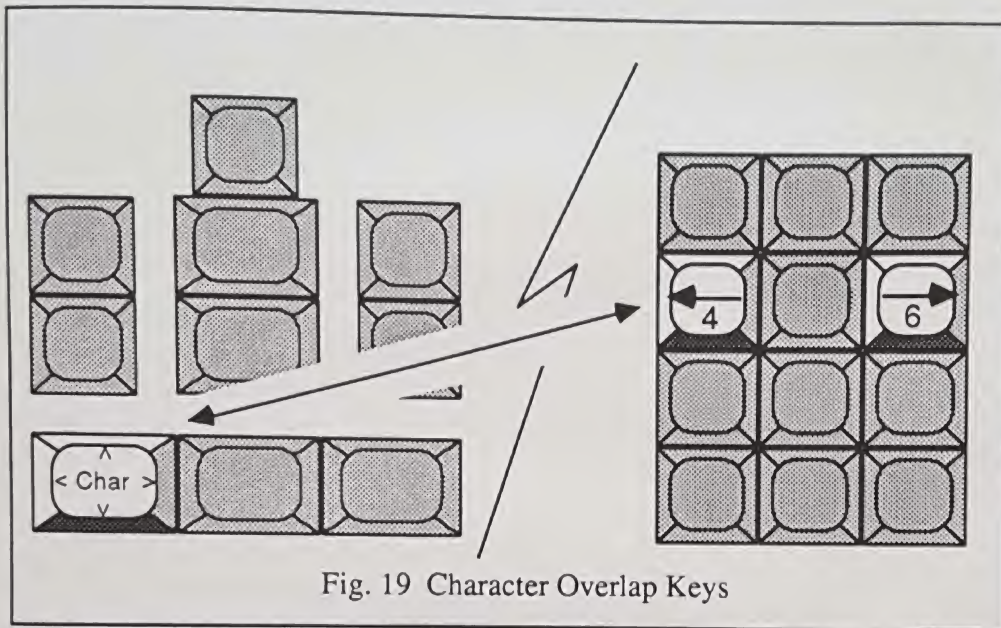
23. CHARACTER LIFT

Certain individual characters can be moved up from the character base line to a point where the top of the character is aligned with the top of the tallest character in the font of the preceding character.

First position the Cursor over the character that you wish to move up from the base line, press and hold down the CHARACTER key and operate the Cursor Up key. Once a character has been moved up from the base line, you can move it back

Fig. 20 The Character Lift Keys
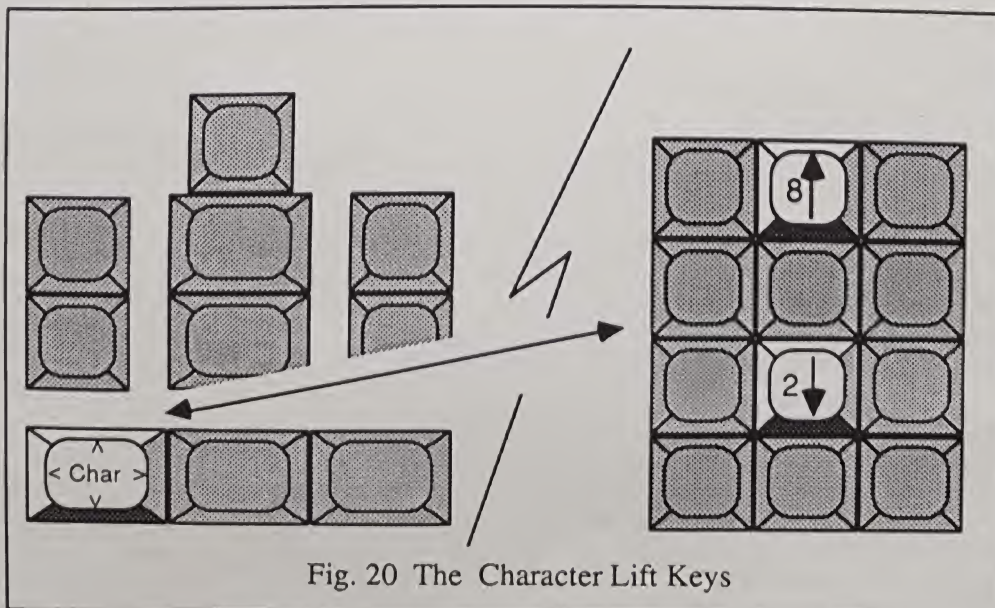
down again by pressing and holding down the CHARACTER key and operating the Cursor Down key.

> Please Note: This facility will only work if the character which is being moved up is smaller than the preceding character.

24. ITALIC CHARACTERS

Any row of text can be made to assume a 13 degree slope by operating the **ITALIC** key, see Fig. 21.

First position the Cursor on the row of text that you wish to italicise and operate the ITALIC key. If you operate the Italic key again without moving the Cursor off the row the characters will return to upright.
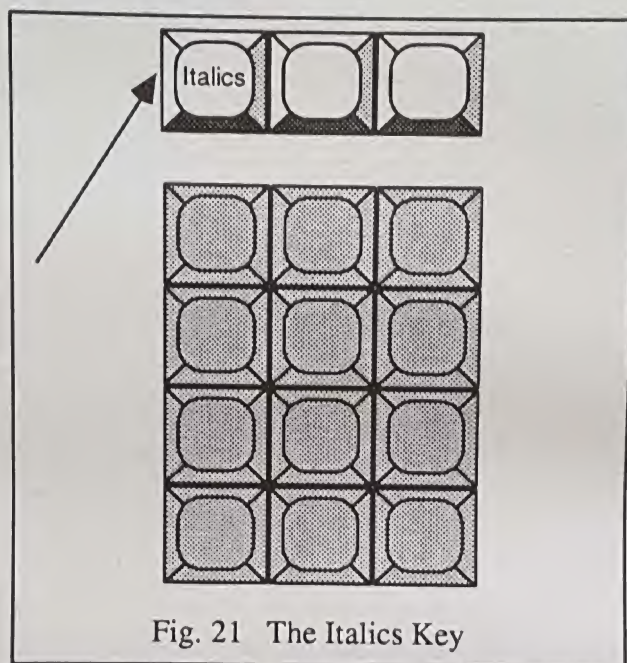
Fig. 21   The Italics Key

25. UNDERLINE

Individual words or whole rows of text can be underlined by operating the **UNDERLINE** key, see Fig. 22.

First position the Cursor in the space which immediately precedes the word or words you wish to underline and operate the UNDERLINE key. The underline will be displayed from the trailing edge of the Cursor to the right hand edge of the working area. To terminate the underline, position the Cursor in an appropriate space and operate the UNDERLINE key again. The underline will terminate at the leading edge of the Cursor.

Please note that the underline facility only works from space to space. You cannot commence or end your underline under a word. Any attempt to do so will only result in the words Invalid Command being displayed in the System Status Row.

26. FLASH

Individual words or whole rows of text can be made to flash at a fixed rate by operating the **FLASH** key, see Fig. 23.

First position the Cursor in the space which immediately precedes the word or group of words you wish to flash, and operate the FLASH key. All the text to the right of the Cursor will now flash. Next position the Cursor in the space which immediately follows the word (or in the space which immediately follows the last
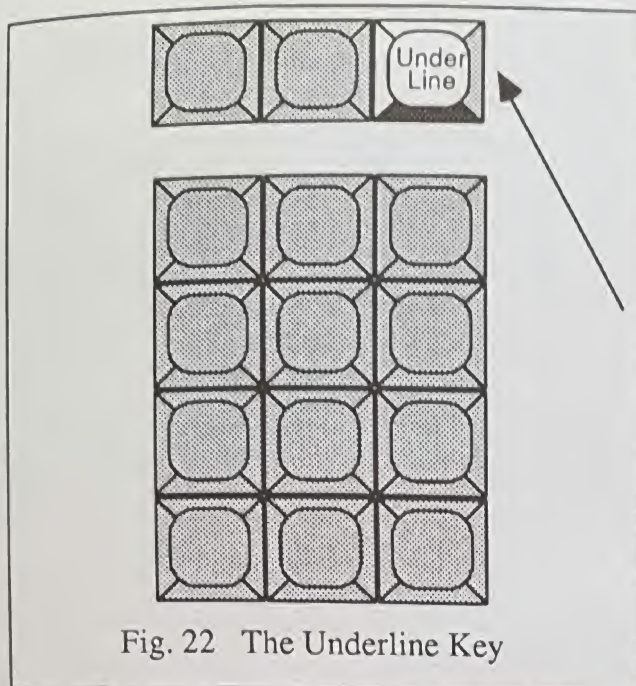
Fig. 22   The Underline Key
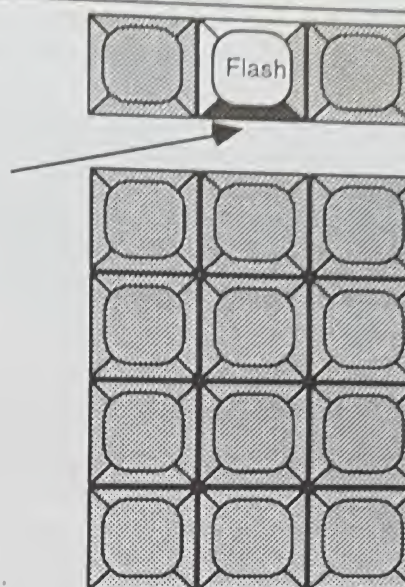
Fig. 23   The Flash Key

word of a group of words), and operate the FLASH key again. All words to the right of the Cursor will now stop flashing.

Please note that the Flash facility only works from space to space. You cannot commence or end your flash with a character which is within a word. Any attempt to do so will only result in the words Invalid Command being displayed in the System Status Row.

27.   LOGOS

The maximum size of a logo is 124 TV lines high by 8uS wide. A logo can be supplied either as a Single height logo or as a Double height logo.

A Single height logo can be displayed alongside a single row of text. A Double height logo can be displayed to the left of 2 rows of text, see Fig. 24. Please note that the second row of text can be moved vertically with respect to a Double Logo using the S ROW key and the appropriate Cursor shift key (See Section 14).

MIKE KING
Reporting
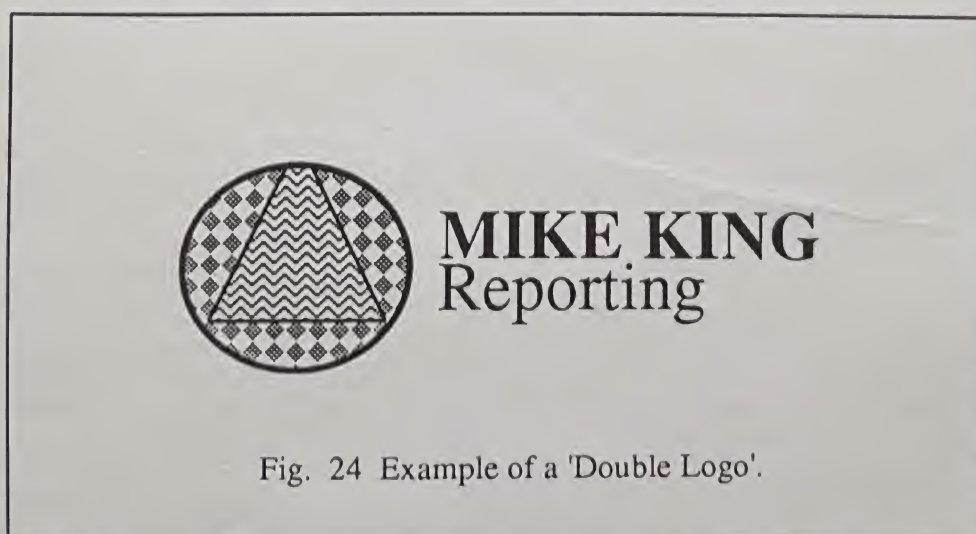
Fig. 24 Example of a 'Double Logo'.

Normally, only one Double Logo can be displayed per row. However, Double Logos with the same Base Line and Divide Line can be displayed along the same row provided there is no text separating them.

To display a Double Logo, first position the Cursor at the point where you wish the top half of the logo to be displayed, operate the appropriate special character key,

followed by the **Double Logo** key. The label on the sleeve of the disk you are using will tell you which special character key(s) you should operate in order to display the logo.

> The Double Logo facility will only work with logos which have been specially prepared as Double Logos by the optional Font Composer. If you operate the DOUBLE LOGO key with anything other than a Double Logo all the text below the Cursor will be corrupted. If you should ever operate the DOUBLE LOGO key by mistake, move the Cursor back one space and operate the SPACE BAR.

Post editing of text is only possible to the right of a Double Logo.
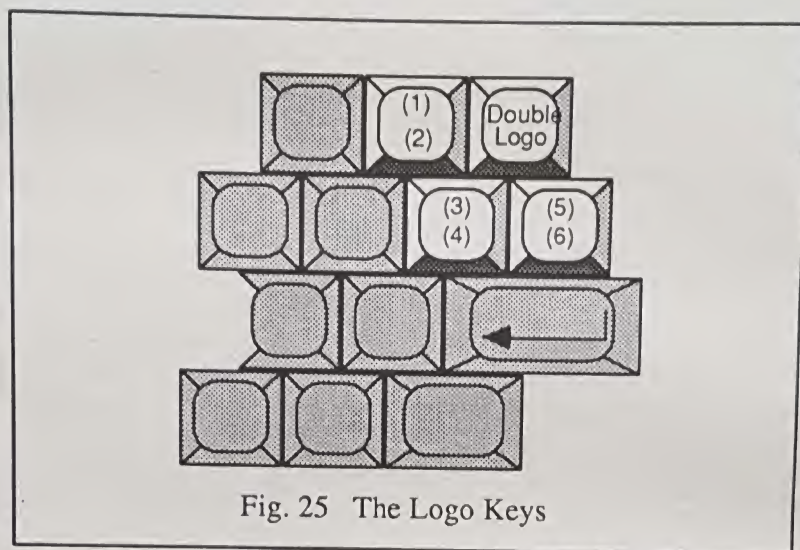
Fig. 25   The Logo Keys

28.   TABULATION

16 Horizontal Tab locations are available for selection. The first Tab is located just inside the Safe Area. The sixteenth Tab is located about two spaces inside the right hand edge of the Safe Area and the others are equally spaced in between.

When the Aston 3B is first switched on, the first Tab, i.e. the one just inside the left hand side of the Safe Area, is automatically 'set'. To move the Cursor from the left hand side of the Working Area to the first Tab location simply operate the TAB key, see Fig.26. If the TAB key is pressed again, the Cursor will move right to the next Tab which has been set. If there are no further Tabs set to the right of the Cursor, the Cursor will automatically Line Feed/Carriage Return when the TAB key is pressed again.

To 'set' a Tab, first position the Cursor where the Tab is required, press and hold down the **INSERT** key and operate the **TAB** key. The Cursor will be seen to move slightly to wherever the nearest Tab location is, and the System Status Row will display which Tabs have been 'set' and which haven't, see Fig. 27.

To delete a Tab, first operate the **TAB** key until the Cursor is positioned at the appropriate Tab location, press and hold down the **DELETE** key and operate the **TAB** key.

To clear all the Tabs, with the exception of the first Tab if set, press and hold down the **CLEAR** key and operate the **TAB** key.

It is not possible to perform post editing to the left of text which has been positioned by a TAB.

Fig. 26   The TAB keys

= Tab Set   _ = Tab Unset
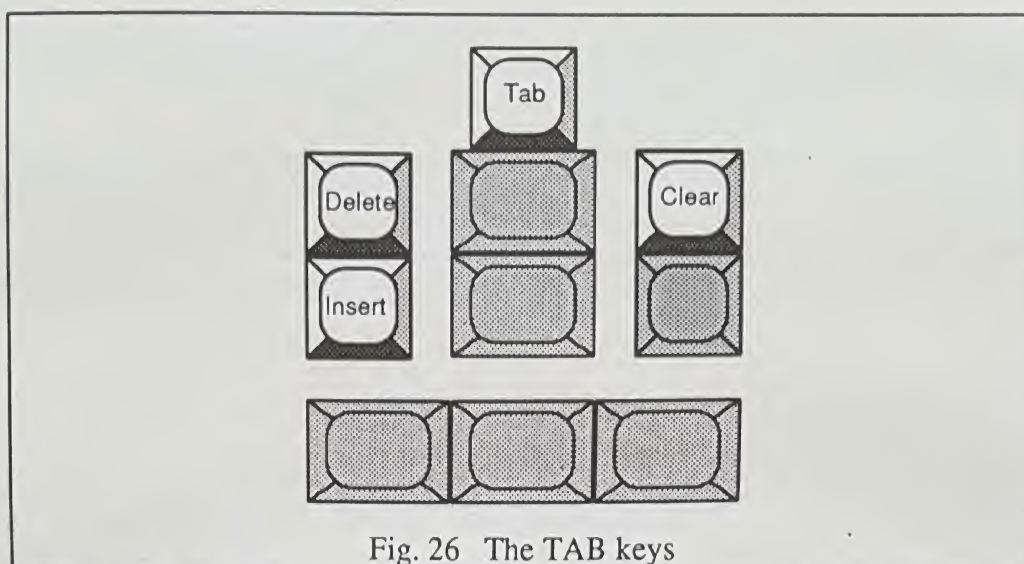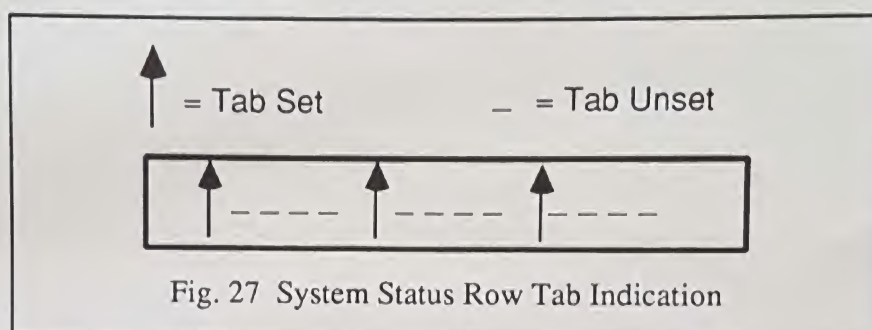
Fig. 27 System Status Row Tab Indication

29.   BACKGROUND COLOUR

The Aston 3B provides a choice of seven colours plus black, which you can select on a row by row basis by operating the background colour select keys, as shown in Fig.28. Following initial switch-on or a colour reset (See Section 33.) the seven colours provided are:-

Colour 1   :   White
Colour 2   :   Blue
Colour 3   :   Black
Colour 4   :   Red
Colour 5   :   Green
Colour 6   :   Yellow
Colour 7   :   Magenta
Colour 8   :   Cyan

To colourise the whole of the background in a single colour, position the Cursor in the top row, press and hold down the **BACKGROUND COLOUR** key and operate the appropriate numerical key. If you wish to display another background colour, but say half-way down the screen, move the Cursor down the screen to where you wish the colour change to take place and repeat the above described colour selection. Your new colour will commence from the top of the Cursor and continue down the screen.

As you select your background colour, the System Status Row will confirm which colour you have chosen. If you have several background colours on display you can determine what any particualr colour is by simply positioning the Cursor in the area of the colour itself and the System Status Row will then automatically tell you

whether it is Colour 1, Colour 2, etc. This will be found particularly useful if you are displaying colours other than the primary and secondary colours that the Aston 3B provides following an initial switch-on or a colour reset.

Please note: following initial switch-on the Aston 3B automatically displays a black background.

COLOUR	1(WHITE)	2	BLACK	4	5	6	7	8	C'STIC
CHARACTER EDGING	SURROUND	SHADOW	NONE	SEE THROUGH					
FONT	1	2	3	4	FONT CHANGE				
DISPLAY MODES	NORMAL	ZIP	SUBTITLE	DELAYED CUT	ROLL	CRAWL	CRAWL	CRAWL	POR1
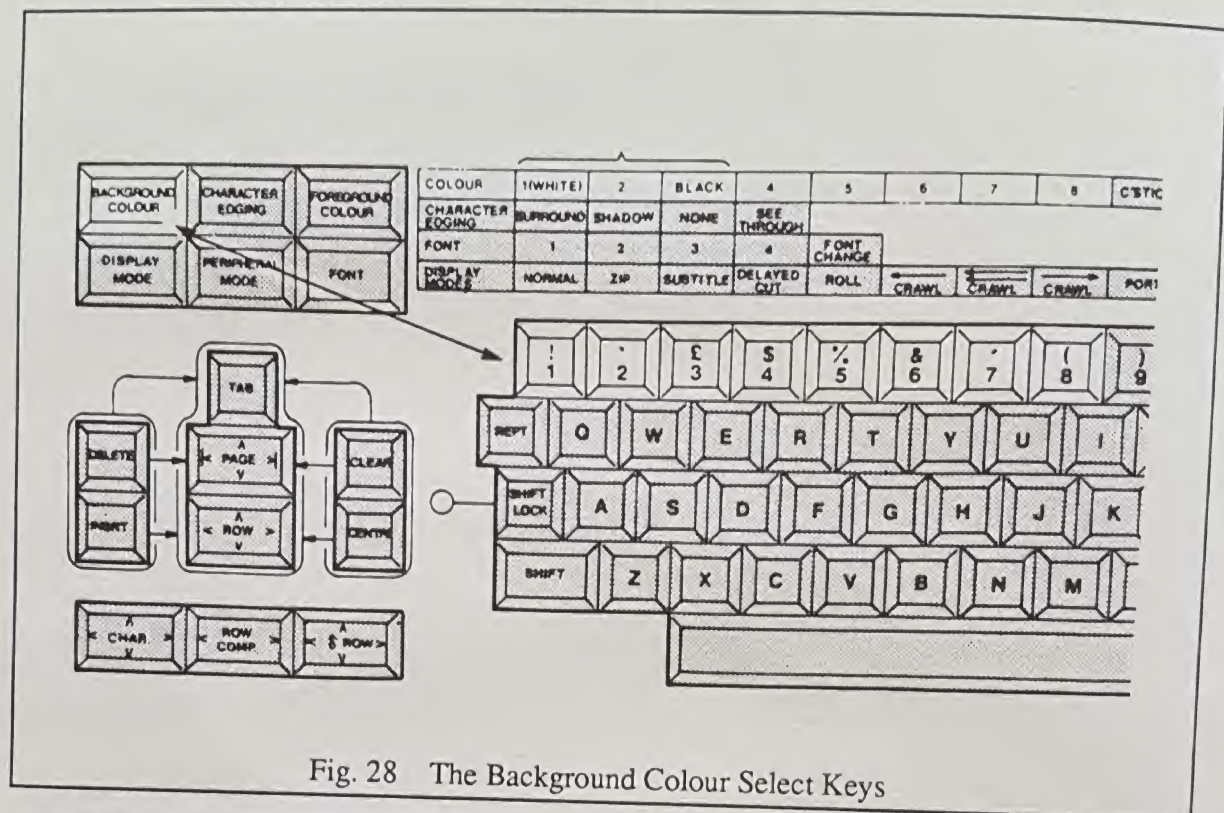
Fig. 28   The Background Colour Select Keys

30.   FOREGROUND COLOUR

The Aston 3B provides a choice of seven colours plus black, which you can select on a word by word basis using the Foreground Colour Select keys, see Fig. 29.

Following initial Swith-on or a colour reset (See Section 33.), the seven colours provided are:

Colour 1	:	White
Colour 2	:	Blue
Colour 3	:	Black
Colour 4	:	Red
Colour 5	:	Green
Colour 6	:	Yellow
Colour 7	:	Magenta
Colour 8	:	Cyan

Immediately following an initial switch-on, any text that you enter from the keyboard will be displayed in Colour 1 (White).

You can select the foreground colour of your text either before you enter it from the keyboard, in which case all the text will be displayed in the same colour until you select another colour, or you can change the foreground colours on a word by word basis after you have entered the text.

To select a foreground colour, press and hold down the FOREGROUND COLOUR key and operate an appropriate numerical key. As soon as you operate one of the numerical keys the System Status Row will verify the colour you have selected by displaying the foreground colour number. Any text that you now enter, providing you start with a space by pressing the SPACE BAR, will be displayed in the

COLOUR	1(WHITE)	2	BLACK	4	5	6	7	8	C'S'
CHARACTER EDGING	SURROUND	SHADOW	NONE	SEE THROUGH					
FONT	1	2	3	4	FONT CHANGE				
DISPLAY MODE	NORMAL	ZIP	SUBTITLE	DELAYED CUT	ROLL	CRAWL	CRAWL	CRAWL	PO
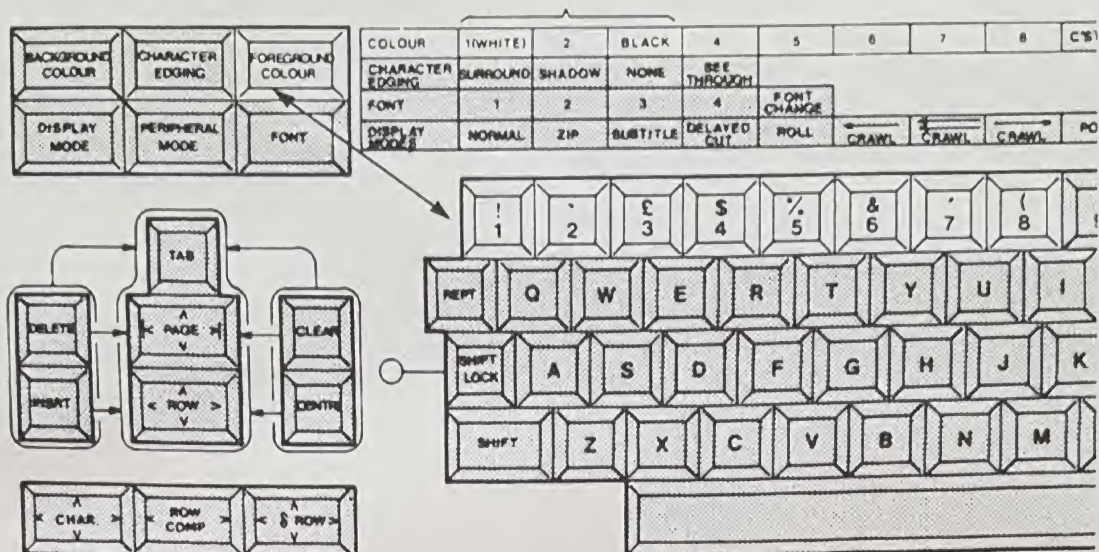
Fig. 29 The Foreground Colour Select Keys

foreground colour shown in the System Status Row.

If you are displaying several colours and you wish to determine the colour of a particular word, simply position the Cursor over the word and refer to the System Status Row. The System Status Row will automatically tell you whether it's Colour 1, Colour 2, etc.

If you wish to change the foreground colour of an existing caption, there are two ways of doing it.

METHOD 1: First select the required foreground colour, move the Cursor to the space which is immediately before the word whose colour you wish to change and press the Space Bar. The foreground colour of the word will now change to the colour shown in the System Status Row. The Cursor can then be moved to the next space and the space bar pressed again, and so on until all the words have been re-coloured.

METHOD 2: If you want to change the colour of an individual word, position the Cursor over any character in the word, press and hold down the **FOREGROUND COLOUR** key and operate the appropriate numerical key.

31.   CHROMASTICK

31.1.   *INTRODUCTION*

The Aston 3B provides you with a choice of seven colours plus black, which you can use to colour the foreground (text) on a word by word basis, and the background on a row by row basis. Each of the seven colours, however, can be varied by adjusting the position of the ChromaStick and the Luminance Control, see Fig.30.

The Aston 3B generates 16 levels of Blue, Red and Green which, when combined, provide a choice of 4096 colours. Each level of Blue, Green and Red is referred to by a two digit number, 00 to15. A six digit number, therefore, describes the resulting colour when Blue, Green and Red are combined. This six digit number is displayed in the System Status Row whenever a colour is being varied and can be used for future reference.

Fig. 30   ChromaStick and Numerical Entry Select Keys
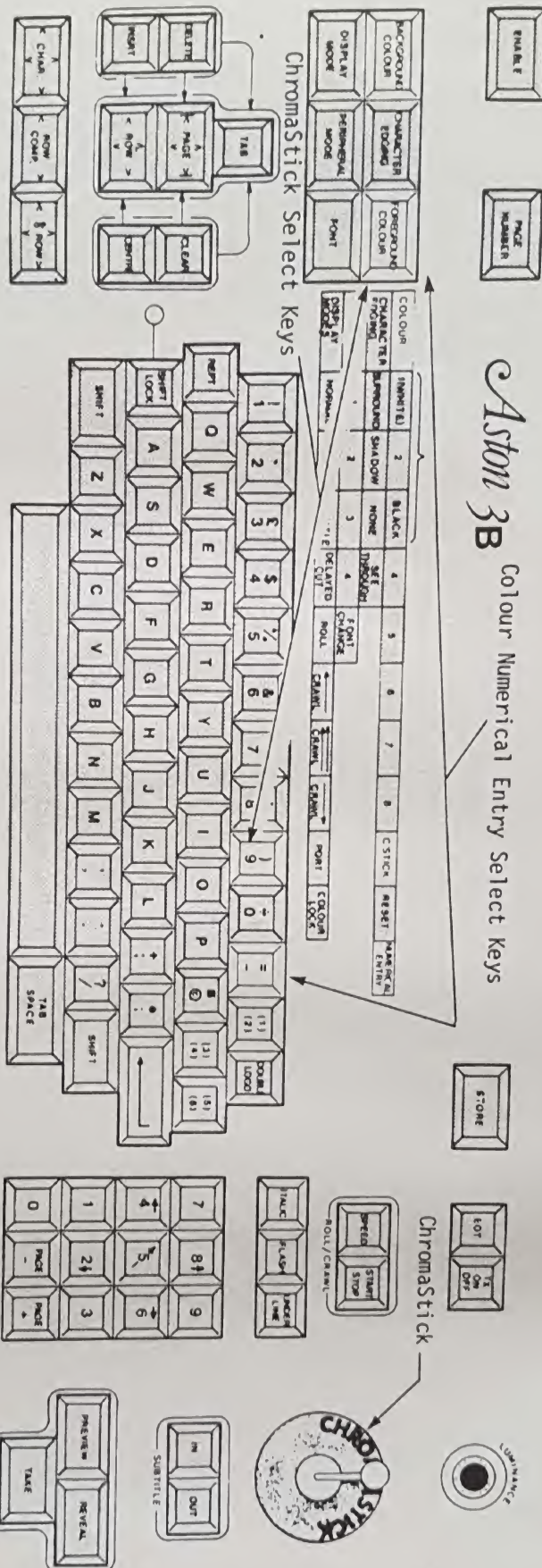
31.2. *CHANGING A BACKGROUND COLOUR*

First, position the Cursor in the area of the screen which is coloured by the colour you wish to change. If you are displaying a single background colour, then the position of the Cursor is not important. Next, press and hold down the **BACKGROUND COLOUR** key and operate the ChromaStick select key, (the Number 9 key). As soon as both keys are released, the background colour will change to a colour determined by the position of the ChromaStick and Luminance Control. The System Status Row will also show which background colour is being changed and its six digit colour reference number. For example, if you are changing the colour of 'Background Colour 5' and have a brown background on display, the System Status Row will display **Bgd -5-, 000410**. To fix the background colour that you have just selected with ChromaStick and the Luminance Control, simply press the **BACKGROUND COLOUR** key.

If you wish to change another background colour, simply move the Cursor to the area of the screen which is coloured by the colour you wish to change and repeat the above operation.

31.3 *CHANGING THE FOREGROUND COLOUR*

First, position the Cursor over any word which is coloured in the colour you wish to change. Next, press and hold down the **FOREGROUND COLOUR** key and operate the ChromaStick select key (the Number 9 key). As soon as both keys are released, the foreground colour will change to a colour determined by the position of the ChromaStick and Luminance Control. The System Status Row will also show which foreground colour is being changed and its six digit number. To change its colour simply alter the position of the ChromaStick and Luminance Control until the desired colour is displayed. To fix the colour, simply press the **FOREGROUND COLOUR** key.

32.   NUMERICAL COLOUR ENTRY

As an alternative to ChromaStick, any of the seven foreground/background colours can be changed by entering a different colour reference number direct form the keyboard, via the numerical keypad.

To change a background colour, first position the Cursor in the area of the screen which is coloured in the colour you wish to change, press and hold down the **BACKGROUND COLOUR** key and operate the **NUMERICAL ENTRY** select key. As soon as both keys are released the System Status Row will display the background colour number, and its six digit reference number. To change the colour reference number, press and hold down the **BACKGROUND COLOUR** key and enter the new six digit number via the numerical keypad on the right hand side of the keyboard. It is important to remember that the first two digits represent the level of BLUE, the second two digits represent the level of GREEN and the last two digits represent the level of RED. White is represented by the colour reference number: 151515. To return to the normal mode of operation press the **EOT** key.

To change a foreground colour, first position the Cursor over any word which is coloured in the colour you wish to change, press and hold down the **FOREGROUND COLOUR** key and operate the **NUMERICAL ENTRY** select key. As soon as both keys are release the System Status Row will display the foreground colour number and its six digit reference number. To change the colour reference number, press and hold down the **FOREGROUND COLOUR** key and enter the new six digit reference number via the numerical keypad. To return to the normal mode of operation press the EOT key.

33.   COLOUR RESET

Colour Reset will allow you to reset all seven colours back to the primary and secondary colours shown in pages 17 and 18, section 29.

To reset all seven colours, press and hold down either the **FOREGROUND COLOUR** key or the **BACKGROUND COLOUR** key and operate the **RESET** key (the numerical 0 key), see Fig.31

Fig. 31   The Colour Reset Keys

34.   CHARACTER EDGING

The internal character edge generator will enable you to display your text and graphic symbols with either a symmetrical edge, drop shadow edge, no edge or as outline characters (see-through). Each can be selected on a row by row basis.

Following an initial switch-on, any text you enter will be displayed with a symmetrical edge. To select a different edge for the whole page first position the Cursor in the top row, press and hold down the CHARACTER EDGE key and operate the appropriate numerical key, (One for a symmetrical edge, Two for a drop-shadow edge, Three for no-edge and Four for outline). See Fig. 32. To change the edge for a single row of text first position the Cursor on the row and repeat the above procedure. The row and all those below it will display the edge you have selected. You can now move the Cursor down by one row and select another edge.

35.   COLOURED EDGING

Normally, the colour of the symmetrical and drop shadow edging is black. However, if any of your text is coloured with either a Foreground Colour 2 or a Foreground Colour 3 (Black) the colour of the edging will be the same as that which has been assigned to Foreground Colour 1. This means that you can choose almost any colour for the edging of these two foreground colours because Colour 1 can be varied using the ChromaStick facility.

PLEASE NOTE: Before you change the colour of the edging, make sure that the Cursor is not over any text, because if it is the colour of the text will change as soon as you select Foreground Colour 1 and ChromaStick.

36.   THE INTEGRAL DISK STORE

The integral disk memory will allow you to store up to 300 pages of text on each Micro Floppy Disk.

COLOUR	1 WHITE	2	BLACK	4	5	6	7
CHARACTER EDGING	SURROUND	SHADOW	NONE	SEE THROUGH			
FONT	1	2	3	4	FONT CHANGE		
DISPLAY MODES	NORMAL	ZIP	SUBTITLE	DELAYED CUT	ROLL	CRAWL	CRAWL
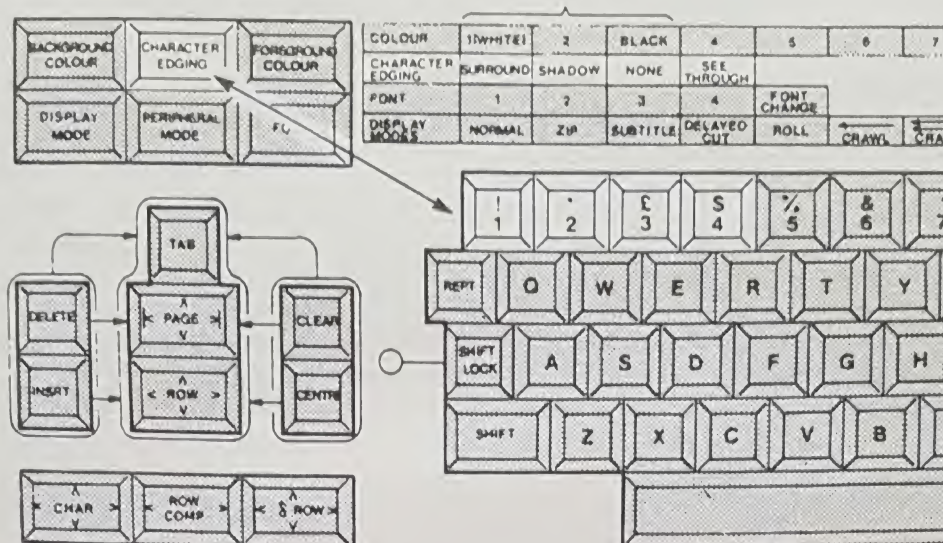
Fig. 32   The Character Edge Selection Keys

Pages can be selected at random in less than a second; sequential pages can be displayed at the rate of two pages per second.

Page buffer memories allow page changes to take place during the next field blanking period enabling jitter-free back-to-back cuts and add-on reveals.

36.1   THE MICRO FLOPPY DISK

The Aston 3B uses Double Sided, Double Density 3 1/2" Micro Floppy Disks, such as the MAXELL MF2-DD.

Although the Micro Floppy Disk is more rugged than the earlier types of floppy disk, care should still be exercised when handling them. For example, certainly keep them well away from strong magnetic fields, do not expose them to heat or sunlight, keep them dry and most important, do not pull back the metal covering and touch the disk media.

36.2   WRITE PROTECT

The 3 1/2" Micro Floppy Disk has the capability of being 'Write Protected'. When a disk is 'Write Protected' you can't add new captions or fonts nor change any information on it.

Slide the tab towards the edge of the disk to 'Write Protect' it. To allow the disk to be altered again, slide the tab to cover the hole.

36.3   FORMATTING A NEW DISK

To format a new disk, make sure the disk is not 'Write Protected', insert it into the Disk Drive Unit, drop down the centre font panel and then operate the small black push button on the front of the DISK CONTROLLER PCB, adjacent to the disk drive itself. As soon as you operate the Format Button a green light on the Disk Controller PCB will flash every time a track is laid down on the disk. When the green light stops flashing the disk will be formatted. Formatting takes about 5 minutes. If the green light stops flashing and the Red ERROR light illuminates instead, then the disk

checking software has detected a fault with the disk and has aborted the formatting operation. Such disks should be treated with caution.

36.4   RE-FORMATTING AN OLD DISK

To re-format an old disk, make sure the disk is not 'Write Protected', insert it into the Disk Drive Unit, drop down the centre front panel and then operate the small black button on the front of the DISK CONTROLLER PCB.

As soon as you operate the Format button, a green light will illuminate for about 4 seconds, warning you that the disk is already formatted. To re-format the disk, operate the Format button twice.

> WARNING. When you re-format an old disk all the information that was on the disk is erased and cannot be retrieved.

37.   RECORDING A PAGE OF TEXT

Once you have composed your page of text you can store it on disk exactly as displayed for later recall. This includes the seven foreground and background colours and any tabulation points that you may have selected. Up to 300 pages of text can be recorded on a single disk and each page is identified by a PAGE NUMBER, 1 through to 300.

To record a page of text, first press and hold down the **PAGE NUMBER** key and enter the page number using the numerical keypad on the right hand side of the keyboard. The System Status Row will display each number as you enter it. As soon as you release the **PAGE NUMBER** key the Disk Drive Unit will position its Read/Write head over the page of the floppy disk which is appropriate for the page number shown in the System Status Row. It will have done this within half a second of you releasing the **PAGE NUMBER** key.

If the words DISK ERROR appear in the System Status Row, this will indicate that the Disk is faulty around the page you have selected, due possibly to a scratch on the disk or dirt etc.

If the words DISK NOT READY appear in the System Status Row, check that the Page Number you have just entered is less than 300 or that the Disk is correctly engaged within the Disk Drive Unit.

To store the page of text on the Disk press and hold down the **ENABLE** key and operate the **STORE** key. You will find both these keys along the top of the Keyboard. As soon as the **STORE** key is released, the page of text on the edit display will be stored on the disk. The word **WRITE**, displayed momentarily in the System Status Row, will tell you that the page has been stored successfully on the disk. If the words DISK ERROR appear instead, the likely reasons for this is that either the disk is Write Protected or that the Page Number that you have selected is occupied by a Font.

38.   READING A PAGE OF TEXT FROM DISK

Each page on disk is identified by a Page Number, 1 through to 300. Before you can read a page from disk and display it on the televsion screen, you must enter its page number via the numeric keypad on the right hand side of the keyboard while pressing and holding down the **PAGE NUMBER** key. The System Status Row will display each page number as you enter it.   As soon as you release the **PAGE NUMBER** key the Disk Drive Unit will search for the page and have it ready as the 'next page' for display within half a second. The 'next page' can be displayed by simply pressing and holding down the **ENABLE** key and operating the **TAKE** key.

As soon as the page is displayed on the screen, the 'next' Page Number displayed in the System Status Row will automatically increase by one, indicating that the next page in numerical sequence is ready for display. Repeated operations of the **TAKE** key will allow you to display a sequence of captions as a series of back-to-back cuts at the rate of two per second.

39.   'NEXT PAGE' PREVIEW

Before a caption can be stored on disk it must be given a page number of between 1 and 300. However, the page number you choose may have been assigned to a caption which is already resident on the disk. To check to see whether or not this is the case and, if it is, if the caption on the disk is required for future use, the 'NEXT PAGE' PREVIEW facility should be used.

To preview (or inspect) a page on disk, or to see if it is 'free', first enter the Page Number in the usual way, press and hold down the **ENABLE** key and operate the **PREVIEW** key. As soon as you operate the PREVIEW key the caption which you have just composed will disappear and in its place the caption whose page number is shown in the System Status Row will be displayed, but only on the Black and White edit display. If the Page Number you have selected has never been used before, the words DATA ERROR will appear in the System Status Display. To return to the original caption, i.e. the caption which is waiting to be stored on disk, simply press and hold down the **ENABLE** key and operate the **PREVIEW** key again.

40.   PAGE + PAGE -

The **PAGE +** and **PAGE -** keys shown in Fig.33 will enable you to increase or decrease the pre-selected Page Number shown in the System Status Row.

To increase or decrease the pre-selected Page Number, press and hold down the **PAGE NUMBER** key and operate the appropriate **PAGE+** or **PAGE-** key. For each operation of the PAGE+ or PAGE- key the Page Number in the System Status Row will increase or decrease by one digit. If you hold either key down for more than half a second, the Page number will continue to increase or decrease automatically until you release the key. As soon as you release the **PAGE NUMBER** key the disk drive unit will search and find within half a second the page you have selected.
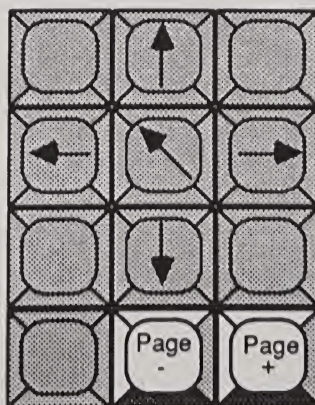
Fig. 33   The Page +/Page - Keys

41.   DELAYED CUT

A Delayed Cut is a momentary 'blank' which is inserted between each caption as it is read from the disk. The duration of the blank can be varied as follows: -Speed 1 =

24 fields, Speed 2 = 18 fields, Speed 3 = 12 fields, Speed 4 = 6 fields.

To select Delayed Cut, press and hold down the **DISPLAY MODE** key and operate the NUMBER 4 key. As soon as Delayed Cut is selected the words **C-U-T Speed X** will appear in the System Status Row. To change the duration of the momentary blank between each caption, press and hold down the **SPEED** key and operate the appropriate numerical key - 1 to 4 in the numerical keypad.

PLEASE NOTE: Delayed Cut only appears on the Programme and Colour Edit outputs.
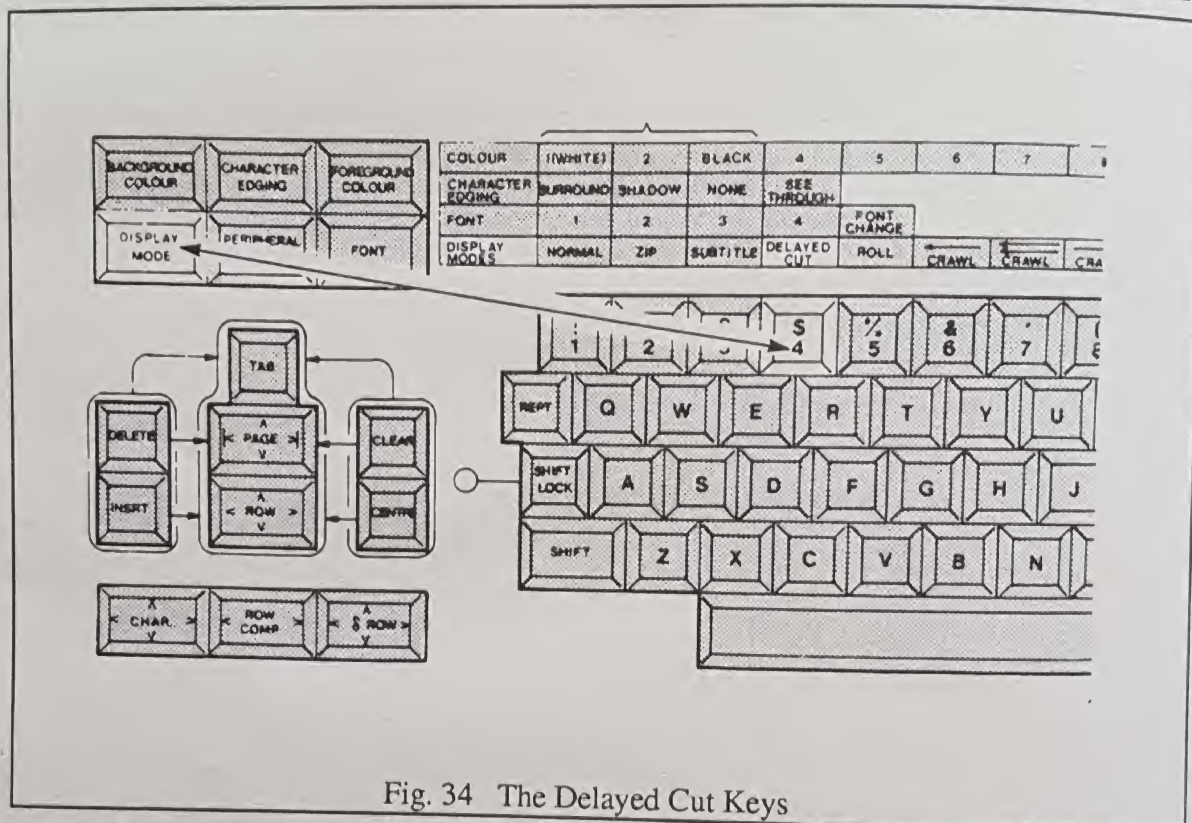
Fig. 34   The Delayed Cut Keys

42. ZIP

Zip will enable you to reveal your caption character by character starting at the top left hand corner of the screen and working down. Four Zip speeds are provided, as follows:-   Speed 1 = 4 frames per character (slowest), Speed 2 = 3 frames per character, Speed 3 = 2 frames per character, Speed 4 = 1 frame per character (fastest).

To Zip a page, first enter the Page Number, press and hold down the **MODE** key and operate the NUMBER 2 key. As soon as the Zip mode is selected the words Z-I-P Speed 1 will appear at the right hand end of the System Status Row. To change the speed of Zip, press and hold down the **SPEED** key and operate the appropriate numerical key in the numerical keypad. To start the Zip, press and hold down the **ENABLE** key and operate the Take. The character generator will remain in the Zip Mode until you select another mode of operation.

43. PAGE REVEAL

The Page Reveal facility will allow you to unveil a caption from the disk on a row by row basis, starting at the top of the screen and working down. Any number of rows can be revealed at a time - it all depends upon where and how many E.O.T. (End of Text markers) you have incorporated within your caption. This means that you can only 'Reveal' a page of text if it has been especially prepared for 'Page Reveal'.
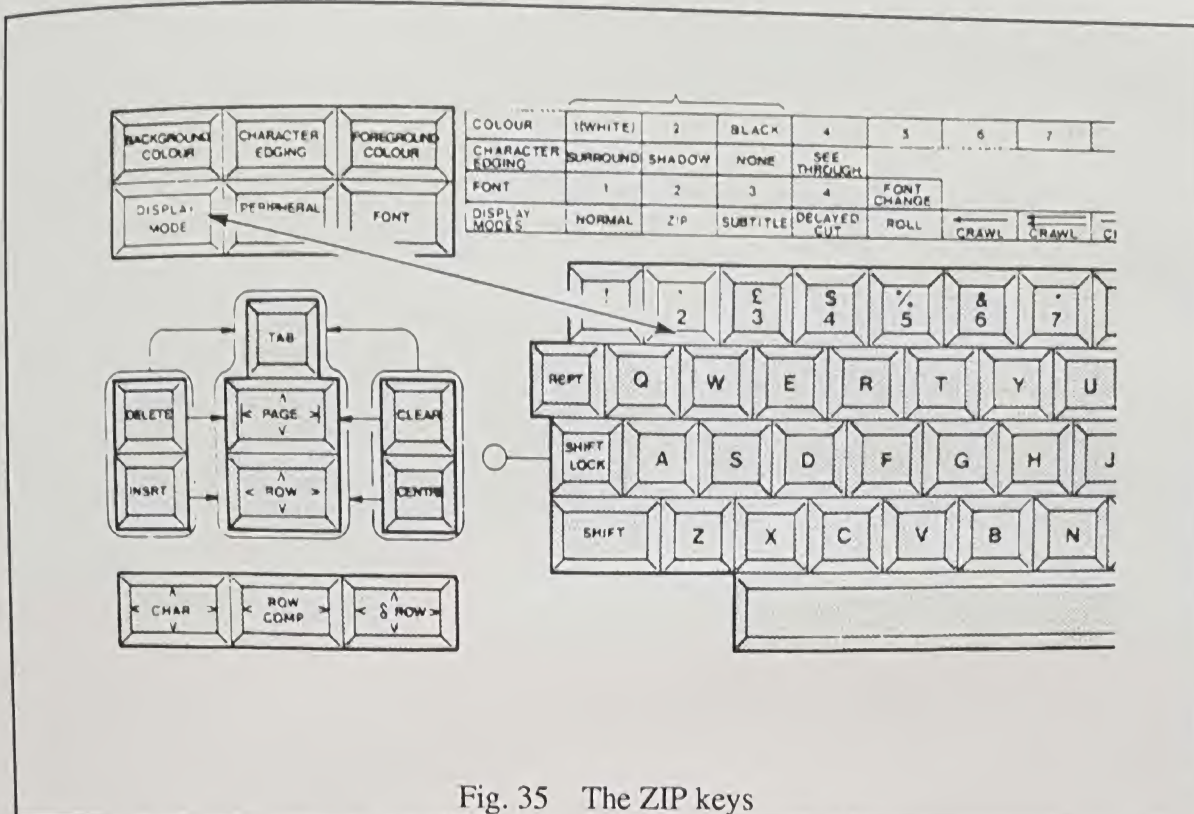
Fig. 35   The ZIP keys

The preparation of a caption for Page Reveal is rather complex, so we suggest you type-in the caption shown in Fig 36A first, before proceeding any further.

Having composed the caption shown in Fig.36.A, the next thing you have to do is to decide exactly how you want to unveil it. Let us imagine that your first requirement is to read the caption from disk and have immediate display of the top row of text. Then, by operating the **REVEAL** key, to unveil the rest of the caption - first rows 2, 3 and 4, then row 5, and finally rows 6 and 7.

E.O.T. markers   Safe Title Area

A

B
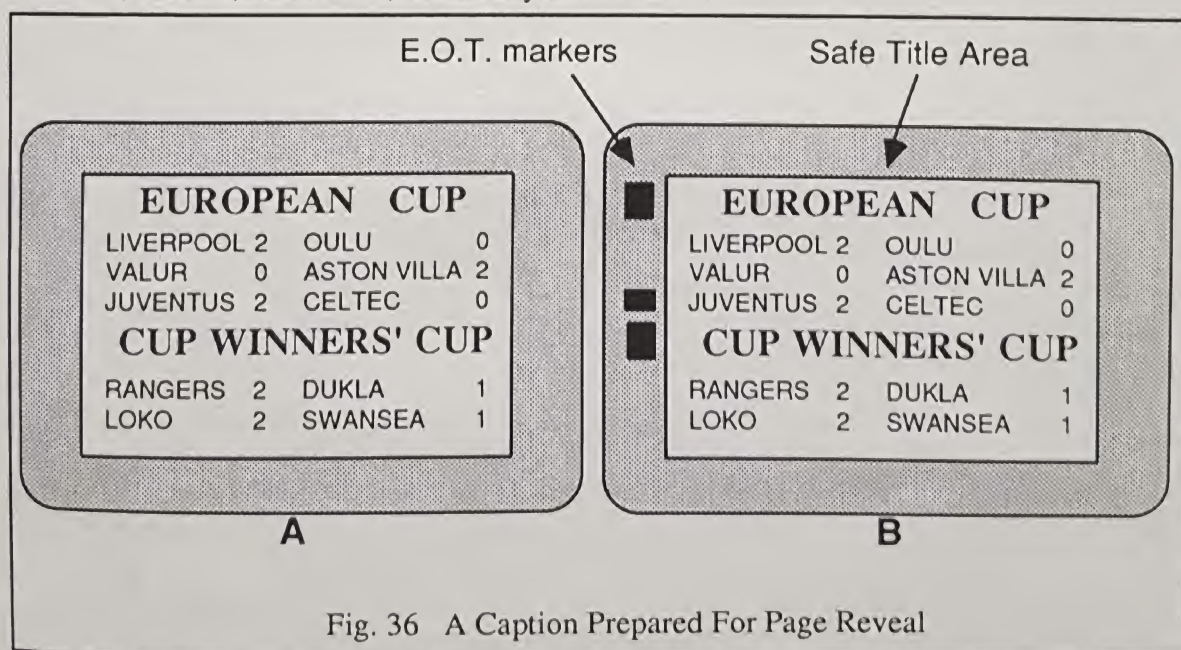
Fig. 36   A Caption Prepared For Page Reveal

As has already been stated, the number of rows unveiled for each operation of the **REVEAL** key is determined by the number of E.O.T. Markers incorporated within the caption. In order to unveil the caption shown in Fig. 36.A in the manner described above, type in the E.O.T. Markers shown in Fig. 36.B. (The procedure for inserting E.O.T. Markers is detailed in Section 45.1). Make sure you position each E.O.T. Marker in the first character location - not inside the Safe Area otherwise the Reveal facility will not work correctly. Next, position the Cursor in the top left hand

corner (by operating the Cursor 'Home' key), and operate the **TX ON/OFF** key. The caption will disappear from the Programme and Colour Edit Displays, but will remain on the Monochrome Edit Display. Now, operate the **REVEAL** key <u>once</u> to unveil and display the top row of text. Next, move the Cursor until it is positioned over the E.O.T. Marker in the top left hand corner and erase it by operating the Space Bar, or the TAB Space Bar, to avoid the top row moving to the left. Having erased the E.O.T. Marker in the top left hand corner, store the caption on the disk for later recall.

To unveil a caption stored on disk, first enter the Page Number, 'take' the page in the normal manner and then operate the **REVEAL** key to unveil the caption. In our example shown in Fig. 41.B, the first row of text will be displayed as soon as the **TAKE** key is operated and the rest will be unveiled by operating the **REVEAL** key.

44.   ROLL

The Roll facility will enable you to store up to 300 pages of text and then, on command, roll them up the screen as a continuous message with the rows of text appearing at the bottom of the screen and disappearing off the top of the screen.

When composing captions for playback in the Roll mode, it is important that you exercise special care and follow specific procedures. For example, you must use all 21 rows of each page, and also vary the location of the top row of text of each page in order to maintain inter-row space continuity when the pages are joined together during the Roll sequence. Fig. 37 shows a typical rolling caption.

Before composing a rolling caption, you must first decide if the roll is to commence as a blank screen with the text appearing at the bottom and moving up off the top, or as a full caption as shown in Fig.38, Drawing A, which upon command will move up the screen followed by the rest of the text.

44.1 *COMPOSING A ROLL WHICH COMMENCES AS A FULL CAPTION*

(A) Select the background and foreground colours as detailed in Sections 29 and 30.

(B) Select font style as detailed in Section 6.

(C) Compose the first page of the roll sequence exactly as it is to appear prior to roll commencement (See Fig.38, Drawing A) and store it on the disk. Before composing your second page count and note the number of blank rows between the lowest row of text in the first page and the bottom of the screen. This will help you to determine the number of blank rows between each credit. In the example shown in Fig. 37 three blank rows separate each credit.

(D) When composing the second and subsequent pages all 21 possible rows of text must be utilised, even though under normal circumstances only the first 11 or so rows are ever displayed (the rest being in effect below the screen as indicated by the dotted outlines in Fig. 38). To gain access to the other rows the 'Page Up' facility must be used; to do this press and hold the **PAGE** key and operate the Cursor Up key. This will cause the whole page to move up by five rows thus revealing five of the rows which were hidden from view below the screen. Continuous operation of this facility will permit eventual access to all 21 rows. Upward pointing arrows at the end of the System Status Row will be displayed when the 'Page Up' facility has been selected.

Continue composing the second page until the words Limit of Travel appear in the System Status Row. This will indicate to you that the Cursor is in the last row (row 21) and that the page is complete and ready to be recorded on disk. Before it is recorded on disk though, determine how many blank rows (if any) are required at the top of the next page in order to maintain the inter-row space continuity.

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Alice Leach
AVRIL ANGERS

Harry Meadows
TREVOR PEACOCK

Annie Meadows
PIP HINTON

Mrs. Fellows
JUDITH SHERGOLD

Flute
JIMMY HASTINGS

Banjo Player
JOHN MARTIN

Choreographer
SALLY MARSHALL

Costume Designer
ODETTE BARROW

Make-Up Artist
DAWN ALCOCK

Sound
NEIL GLYN-WILKINSON

Lighting
WARWICK FIELDING

Designer
BERNARD LLOYD-JONES

Produced By
DAVID HEYCOCK

Directed By
KEITH CHEETHAM

Fig. 37   An Example of a Rolling Caption

After you have recorded the last page we recommend that you record at least two blank pages of the same background colour as a follow on to the roll sequence. This will ensure against unwanted text suddenly appearing on the screen before the roll has been stopped.

44.2 COMPOSING A ROLL WHICH COMMENCES AS A BLANK SCREEN

The same procedures should be followed as detailed in Section 44.1 with the exception of the first page.

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A

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Harry Meadows
TREVOR PEACOCK

Annie Meadows
PIP HINTON

JOHN MARTIN

Choreographer
SALLY MARSHALL

B

Mrs. Fellows
JUDITH SHERGOLD

Costume Designer
ODETTE BARROW

C

Flute
JIMMY HASTINGS

Make-Up Artist
DAWN ALCOCK

Banjo Player

Sound
NEIL WILKINSON

Lighting
WARWICK FIELDING

Designer
BERNARD JONES

D

Produced By
DAVID HEYCOCK

Directed By
KEITH CHEETHAM

Fig. 38   Rolling Caption recorded into four consecutive pages on Disk

45. AUTOMATIC STOP (ROLL)

An automatic stop facility is provided which may be used to pre-determine the exact stop point(s) of a rolling caption. The point at which a rolling caption automatically stops is determined by an E.O.T. (End of Text) marker which is recorded with the text. The roll sequence stops the instant the E.O.T. marker moves up out of the Safe Title Area.

45.1   E.O.T. Markers

The E.O.T. marker looks similar to the Cursor and may be displayed anywhere in a row other than where a character is located.

To display the E.O.T. marker, first position the Cursor in the appropriate row and press the E.O.T. key. The E.O.T. key is located towards the top right hand corner of the keyboard. The E.O.T. marker will not be visible until you move the Cursor to another position.

To erase an E.O.T. marker, position the Cursor over the E.O.T. marker and operate the Space Bar. Any number of E.O.T. markers can be recorded in a rolling caption.

46.   DISPLAYING A ROLLING CAPTION

First, select and read from disk the first page of your rolling caption. Then, press and hold down the **DISPLAY MODE** key and operate the number **5** key, see Fig.39. As soon as the Roll Mode has been selected the words **ROLL-Speed 1, HELD** will appear in the System Status Row.

Next, select your roll speed. Eight roll speeds are provided but only four at a time can be selected from the keyboard. A fast/slow switch on the Interface PCB in the Mainframe unit determines which set of four speeds are available for selection from the keyboard. To change the roll speed, press and hold down the **SPEED** key and operate an appropriate number key in the numerical keypad, see Fig. 39.

To start the Roll, press the **START/STOP** key once. The Roll will continue until the START/STOP key is operated again or an E.O.T. marker moves up the screen and disappears off the top.

The Roll can be restarted by operating the **START/STOP** key.

To return to the normal mode of operation, press and hold down the **DISPLAY MODE** key and operate the number **1** key.

47.   SINGLE ROW CRAWL

The Single Row Crawl facility will enable you to store up to 300 pages of text on a single disk and then, upon command, to enter the text from the right hand side of the screen as a continuous message along a single row. Your crawl message can appear across any portion of the screen - it all depends upon where you vertically position the Cursor prior to crawl commencement.

When composing your crawl message, it is important that you start in the top row and work down, using all 21 possible rows in each page. No consideration for word hyphernation is required, but you must start a row with a space if the row immediately above it ends with a character which is the last character of a word. Font styles and sizes as well as foreground colours can be mixed together when composing your crawl message, but bear in mind that the colours will be those currently set when you commence the crawl rather than those set when the crawl message was originally composed. Pages making up your crawl message must be recorded on disk in strict
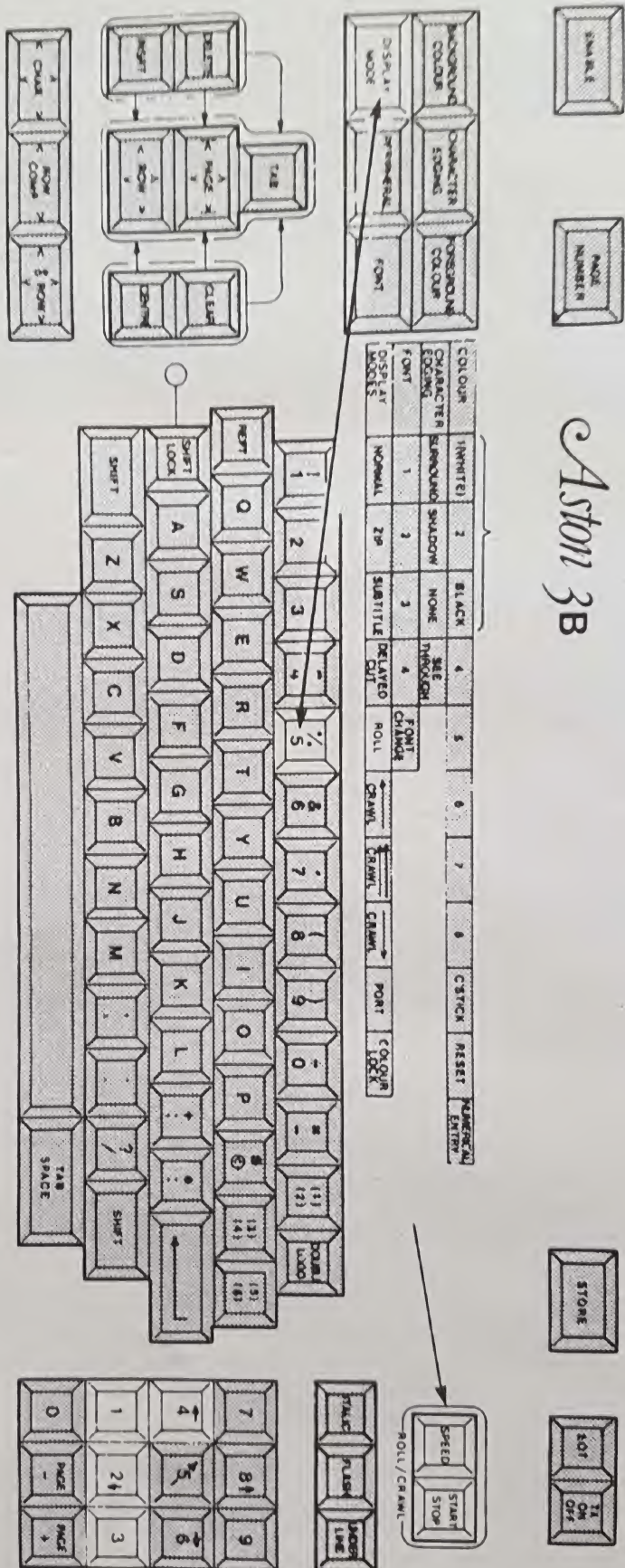
Fig. 39   The Roll keys

numerical sequence. Fig. 46 shows how two pages would be composed for a crawl message.

Basic English, the inventio n of C.K. Ogden, is a simpl ified form of the English La nguage. In it the vocabula ry is reduced to 850 essent ial words which are able to give the sense of anythin g that may be said in Engli sh. Its purpose is to provid e a form of the language wh ich could at once be unders tood by all who know Engli sh and could be easily lear ned as an auxiliary languag e by all who do not already speak English. It is intende d, in fact, as an internationa l means on communication and as a step towards the possible adoption of Engli sh as the universal languag

e of the world. Specimen: The following familiar pass age from the New Testimen t is in Basic English. Happ are those who are sad: for they will be comforted. H appy are the gentle: for th e earth will be their heritag e. Happy are those whose heart's desire is for the ri ghteousness; for they wil l have their desire. Happy are those who have merc y; for they will be given m ercy. A dialect is a form o f language spoken in a cer tain locality showing suffic ient difference to be regar ded as a distinct entity, y et not enough to be regar ded as a distinct language

Fig. 40 The correct way to Compose a Crawl Message

48. AUTOMATIC STOP (CRAWL)

An Automatic Stop facility is provided which you can use to predetermine the exact stop point(s) of your crawling caption. The point at which your crawling caption will automatically stop is determined by the E.O.T. (End of Text) marker, which is recorded with the text. The crawl will stop the instant the E.O.T. marker disappears off the left hand side of the screen. The E.O.T. marker looks similar to the Cursor and you can position it in any space but never over a character. The procedure for inserting E.O.T. markers is detailed in Section 45.1.

49. DISPLAYING A CRAWL CAPTION

First select from disk, but do not read, the first page of your crawl message. Next, position the Cursor in the row in which you wish your crawl message to appear. The crawl can take place anywhere across the screen, even beneath a stationary caption.

IMPORTANT - IMPORTANT - IMPORTANT

Having positioned the Cursor in the row along which the Crawl is to take place, select the tallest font that was used when composing the crawl message and then operate the SPACE BAR. This will ensure that the height of the row is adequate to accept the crawl message.

Failure to carry out this procedure will result in corruption of the crawl message.

Once you have correctly set the height of the row in which your crawl message is to appear, press and hold down the DISPLAY MODE key and operate the number 6

key. As soon as you have selected Single Row Crawl the message:-
| CRAWL - Speed 1, HELD | will be displayed in the System Status Row. Next
select your Crawl Speed. Eight speeds of crawl are provided, but you can only select
four speeds at a time from the keyboard. The other four speeds are available for
selection from the keyboard by operating the **FAST/SLOW** switch on the Interface
PCB in the Mainframe unit. To select a Crawl Speed, press and hold down the
SPEED key and operate the appropriate Number key, 1 - 4 in the numerical keypad.

To start the crawl, operate the **START/STOP** key.

The crawl will continue until you operate the **START/STOP** key again or an
E.O.T. marker moves off the left hand side of the screen. The crawl can be restarted
by operating the **START/STOP** key. To return to the normal mode of operation
press and hold down the **DISPLAY MODE** key and operate the number **1** key.

50.   TWO ROW CRAWL

The composing of a Two Row Crawl is, in many ways, similar to the
composing of a Single Row Crawl, except, of course, we are now dealing with two
rows of text and not one. The most important thing to remember is that the upper row
of your two row crawl must commence in Row 1 and continue on through all the ODD
numbered rows of the first page (assuming, of course, that your crawl message is long
enough) and that the lower row of your two row crawl must commence in Row 2 and
continue on through all the EVEN numbered rows of the first page. If your two row
crawl is of such a length that several pages on the disk have be linked together then,
because each page is made up of an odd number of rows (21), in the second page the
upper row of your crawl must be entered into all the EVEN numbered rows and the
lower row of text must be entered into the ODD numbered rows. For the third page
the situation is exactly the same as for the first page.

Another important point to remember is that if you are including an E.O.T.
marker within your crawl message make sure it is entered in the 'upper' row of text
and not the lower, otherwise it will not have the desired effect of automatically
stopping your two row crawl.

51.   DISPLAYING A TWO ROW CRAWL

First select from disk, but do not READ, the first page of your two row crawl
message, next, position the Cursor in the row in which you wish the upper row of
your two row crawl to appear. Make sure that the height of both rows is high enough
to accept the tallest font used in your crawl message. Do this by selecting the tallest
font and then pressing the **SPACE BAR**. Press and hold down the **DISPLAY
MODE** key and operate the number **7** key to select the Two Row Crawl Mode. The
System Status Row will display the words **CRAWL-Speed 1, HELD** when the
Two Row Crawl Mode is selected. Changing the crawl speed and starting and
stopping the crawl are exactly the same as for a single row crawl, but note that for
Automatic Stop the E.O.T. marker needs to be positioned in the upper row of text.

52.   COMPOSING A LEFT TO RIGHT CRAWL

The left to right crawl mode enables you to store up to 4 rows of text and then,
upon command, to enter the text from the left hand side of the screen as a continuous
message along a single row. Your crawl message can appear across any portion of the
screen - it all depends upon in which row you position the Cursor prior to crawl
commencement.

Compose your left to right crawl as you would for a right to left crawl, as
described in Section 49, with the following exceptions

(A) Your crawl message must be no longer than 4 rows.

(B) Your crawl message must end with an E.O.T. marker. This is in addition to any E.O.T. markers you add for automatic stop.

(C) When entering an E.O.T. marker for automatic stop, remember your crawl will stop when the E.O.T. marker appears at the left hand side of the screen.

53. DISPLAYING A LEFT TO RIGHT CRAWL

First select, but do not read, the page containing your left to right crawl. Position the Cursor in the row in which you wish your crawl message to appear. Make sure that the height of the row is high enough to accept the tallest font used in your crawl message. Do this by selecting the tallest font and pressing the SPACE BAR. Press and hold down the DISPLAY MODE key and operate the number 8 key to select the Left to Right Crawl Mode.

The System Status Row will display ⌐CRAWL - Speed 1, HELD⌐ when the left to right crawl is selected. Changing the crawl speed and starting and stopping the crawl are exactly the same as for a right to left crawl, see Section 49.

54. SUBTITLES

The Subtitle facility will enable you to compose and store up to 2100 subtitles per floppy disk. Each subtitle, whether it be a one, two or three row subtitle, occupies three rows of text and as a page comprises 21 rows, so seven subtitles can be stored into each page.

You can use any style or size of lettering to compose your subtitle, but you will probably find that a light, compact style of 20 TV lines in height as being the most practical. However, it will be found that the absence or presence of descenders in the previewed subtitle can alter the position of the transmitted subtitle. To avoid this, a special font should be used. These fonts, which are available from Aston, have their "baselines" positioned at the bottom of the descenders.

Fig. 41 shows the correct way to compose a sequence of 14 subtitles using two pages of disk memory. It is important that you compose each subtitle in the sequence that will be required during playback. Having composed a complete page of subtitles, you just store it on the disk in the normal way, as described in Section 37.

To play back your subtitles from the disk the following procedure should be followed:-

(A) Select, but do not read, the first page of subtitles.

(B) Make sure you have the right font selected and then 'clear' the screen by pressing and holding down the CLEAR key and operating the PAGE key.

(C) Move the Cursor down the screen to the point where you wish the upper row of a three row subtitle to appear.

(D) Press and hold down the DISPLAY MODE key and operate the SUBTITLE Select key (Number 3). The System Status Row will indicate to you that the Aston 3B is in the subtitle mode by displaying the words:- ⌐Next Subtitle XXX-X.⌐ The first three X's tell you which page out of 300 possible pages the disk drive unit is accessing, and the last X tells you which subtitle will be next previewed at the top of the edit display.

(E) Press and hold down the ENABLE key and operate the PREVIEW key. This will display the first subtitle in the preview area at the top of the edit display.

(F) When you are ready to display the subtitle in the subtitle area at the bottom of the screen, press the IN key. See Fig. 42. As soon as the subtitle appears on the

programme output in the subtitle area the next subtitle in the sequence will appear at the top of the edit display in the 'preview' area.

(G) Pressing the **OUT** key will remove the subtitle from the programme output.

(H) Continuous pressing of the **IN** key will display the subtitles without an interrupt.

Now has the winter of our discontent	1
Made glorious summer by this Sun of York-	2
And all the clouds that lower'd upon our house in the deep bosom of the Ocean buried	3
Now are our brows bound with victorious wreaths	4
Our bruised arms hung up for monuments	5
Our stern alarums chang'd to merry meetings	6
Our dreadful marches to delightful measures	7

First page of subtitles

Second page of subtitles

Grim visaged war hath smooth'd his wrinkled front	1
And now instead of mounting barbed steeds to fright the souls	2
of fearful adversaries He capers nimbly in a lady's chamber	3
To the lascivious pleasing of a lute.	4
But I - that am not shap'd for sportive tricks	5
Nor made to court an amorous looking glass.	6
I, that am rudely stamp'd and want love's majesty To strut before a wanton ambling	7

Fig. 41 Method of Recording Subtitles

If you wish to skip the subtitle which is being 'previewed', press and hold down the **ENABLE** key and operate the **PREVIEW** key.

Operating the **PAGE NUMBER** Key with either the **PAGE+** or **PAGE-** key will enable you to jump subtitles forwards or backwards.
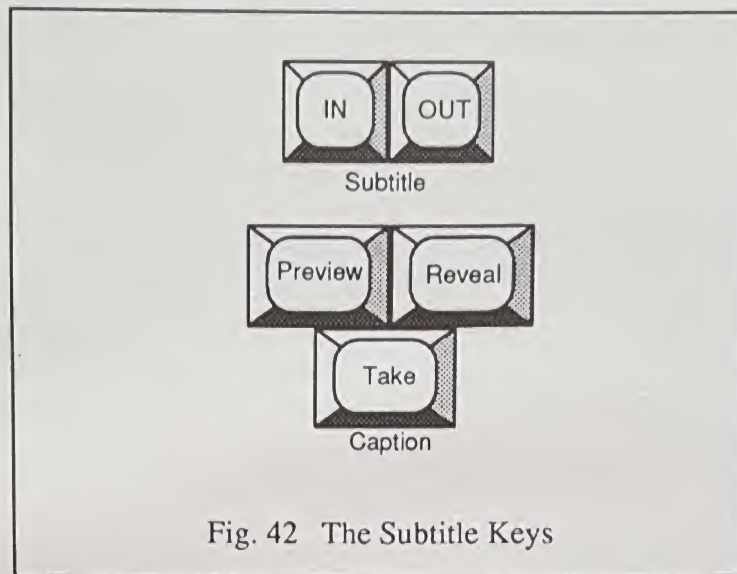
Fig. 42   The Subtitle Keys

55. CAPTION BOXING

Caption boxing will enable you to display your captions or subtitles within a box, the background colour of which will be as per the background colour you selected when you first composed the caption. The start and end of the box is defined by the word flash command and the height of the box is defined by the height of the tallest font displayed.   Before you can display a caption box the **FLASH/BOX** switch on theTiming PCB in the Mainframe unit must be in the 'down' position, the background colour will disappear from the colour edit and programme outputs.
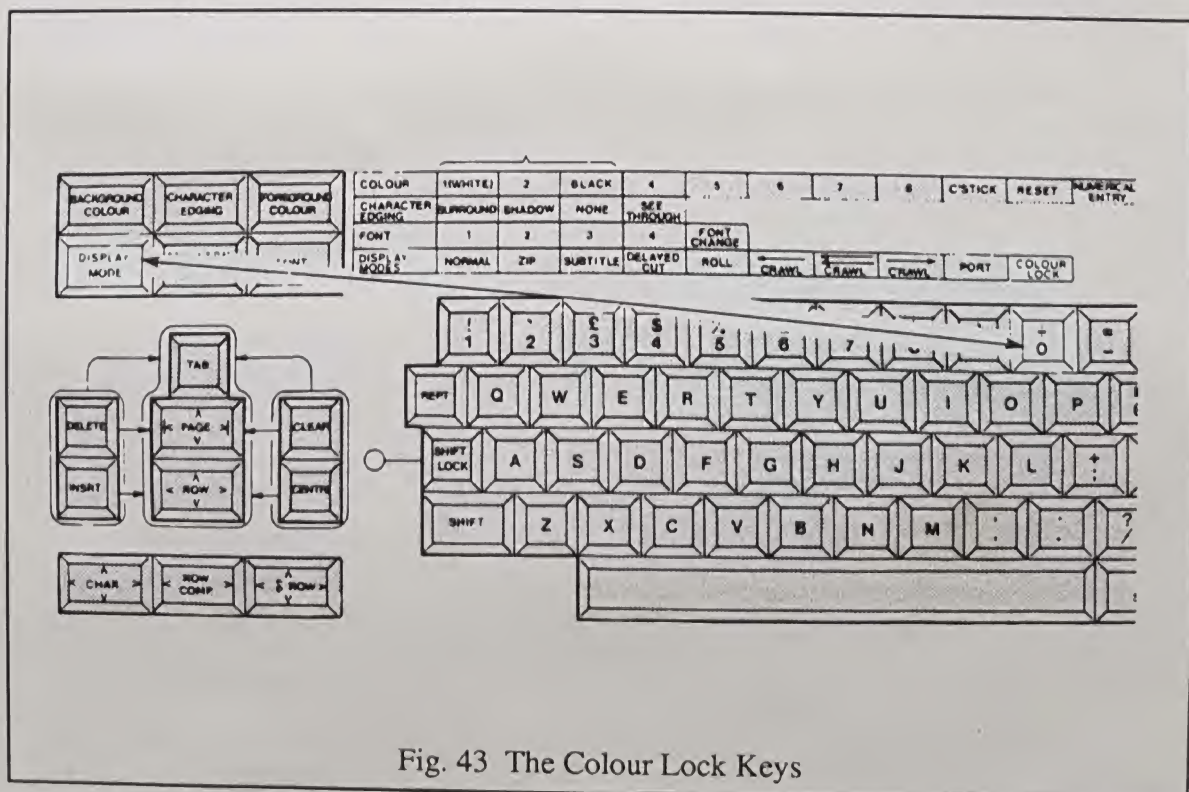
Fig. 43 The Colour Lock Keys

To box a caption first position the Cursor in a space to the left of the Caption and operate the **FLASH** key. The box will start at the right hand side of the Cursor and continue across the screen. To terminate the box, move the Cursor across the screen and position it in a space to the right of the caption and press and **FLASH** key again. The box will now terminate at the left hand side of the Cursor.

56. COLOUR LOCK

If, after you have composed a series of captions, you decide that the colours that were originally used and recorded with each caption are no longer suitable and need to be changed, the Colour Lock facility should be selected. When the Aston 3b is in the Colour Lock mode, all the colours recorded with each caption are ignored and replaced by a new set of colours which you can choose just prior to selecting the Colour Lock mode.

The procedure is as follows. Select and display the first caption. Change the colours using the methods described in Sections 31 or 32, then press and hold down the **DISPLAY MODE** key and operate the Colour Lock key, as shown in Fig. 43.

Each page on the disk can now be read and re-recorded with the new set of colours.

57. TRANSMISSION ON/OFF

The Transmission On/Off facility will enable you to inhibit the display of text on the programme output. You will find this extremely useful when you are editing your text during a 'live' programme.

To inhibit the display simply press the **TX ON/OFF** key once. As soon as the TX ON/OFF key is operated the words **TX OFF** will appear at the end of the System Status Row. To switch the programme output on again, press the **TX ON/OFF** key.

Please Note: as a safety feature, the programme output will be automatically switched on as soon as you read a page from the disk.

58. FONT SCAN

The Font Scan facility provides a fast means of displaying the fonts resident within the Font Memory.

First select the font required by pressing and holding down the **FONT** key and selecting the appropriate number (1, 2, 3 or 4) in the alpha-numeric keyboard. Once this is done press the **FONT** key with the **PREVIEW** key. The complete font will then be automatically displayed on the television screen.

59. FONT DUPLICATION

The Font Duplication facility will enable you to store any font which is on the ASTON FONT DISK within the Aston 3B font memory and then re-record into any track on another disk.

The procedure is as follows:-

(A) Note the track number of the font you wish to duplicate and insert the Font Disk into the Aston 3B.

(B) Press and hold down the **FONT** key and operate the 'D' key in the Qwerty keyboard. As soon as you press the 'D' key the System Status Row will display TRACK ?0(Read).

(C)   Press and hold down the **PAGE NUMBER/TRACK** key and enter the Track Number of the font via the numeric keypad. As soon as you release the **PAGE NUMBER/TRACK** key, the selected font will be stored into the Aston font memory, after which the System Status Row will display TRACK ?0(WRITE).

(D)   Remove the Font Disk and insert your newly formatted hard sectored disk, making sure that it is not write protected.

(E)   Press and hold down the **PAGE NUMBER/TRACK** key and enter the Track Number via the numeric keypad. If this is the first font you are transferring to your newly formatted disk, you would normally store it into Track 1. Remember there are 150 tracks per disk and an average font takes up about 3 tracks. As soon as you release the **PAGE NUMBER/TRACK** key, the System Status Row will display TRACK 01 (WRITE) CONFIRM-"C". If you are happy with the Track Number showing in the System Status Row then press the "C" key in the Qwerty keyboard in order to store the font. If you are not happy with the Track Number press any key other than the "C" and enter a different Track Number.

(F)   As soon as the font in the Aston 3B font memory has been recorded on the disk, the Aston 3B will return to its normal mode of operation. At this point make a careful note of the Page Number shown in the System Status Row.

If you are going to duplicate a second font onto your new font disk then the next 'free' track on the disk is the one shown by the Page Number in the System Status Row. For example, if, after a font has been stored, the System Status Row displays Next Page 004, the Track Number of your second font will be Track 04. (i.e. in this mode 'Next Page' refers to the next track.)

If, after you have stored say four fonts on your new font disk, you now wish to store a few captions on it as well, it is important that you store the first caption in the first available area on the disk. To determine the first available Page Number simply double the 'Next Page Number' which was displayed in the System Status Row after the last font was duplicated. For example, if the System Status Row displayed:- Next Page 013, then the first caption would be stored into Page Number 26.

60.   COMPUTER INTERFACE

If you press and hold down the DISPLAY MODE key and operate the Number 9 key (PORT), the control of the Aston 3B will be handed over to computer control via its RS-232 interface. The word **PORT** will be displayed at the end of the System Status Row whilst the Aston 3B is in the Computer Interface mode.

To return to the normal mode of operation, press and hold down the **DISPLAY MODE** key and operate the number **9** key again.

Please Note: While the port is on, the keyboard acts as a terminal which can be used to communicate with suitable peripheral equipments connected to the RS-232 Interface. Keyboard control of the character generator, therefore, is lost while the Port is on.

For further information about the RS-232 interface, please refer to Section 5, Paragraph116, page No. 5.29 of the Aston 3B Technical Manual.

61.   BASIC FAULT DIAGNOSIS

61.1   *Keyboard*

Power is applied to the keyboard if the red light on the front face of the box is lit. To test that the internal processor is working alternately press the **SHIFT** and **SHIFT LOCK** keys. If the adjacent light emitting diode lights on **SHIFT LOCK**

and goes out on **SHIFT** then the keyboard is basically working.

The simplest test that the Aston 3B is receiving data form the keyboard is to observe the INPUT DATA LED's on the front of the INTERFACE BOARD. These should indicate the code of the last key pressed. For a QWERTY key LED 8 will be off and the other seven LED's will indicate the ASCII code. For a control key LED 8 will light and the other seven LED's will indicate a control code. The PORT SWITCH LED must be off when performing this test. If the KBD ERROR LED is on then either the incoming data is incorrect or the Aston 3B is not processing the keyboard commands.

61.2   *Main Frame*

61.2.1   Basic Tests

Perform the keyboard checks described in 61.1 then select Display Mode One-Normal, and operate the **PAGE CLEAR** keys.

Check that:-
(1) The Status Row is complete.
(2) The Cursor appears on the edit monitor in the top left hand corner.
(3) The following LED's may be on: WRITE PROTECT: READY: PORT
    ERROR: EDITING: INPUT DATA LED's.

All other LED's should be off. If one or more of these conditions is not met then perform a system reset as described below.

61.3   SYSTEM RESET

First press the Editor Reset button located on the Editor PCB. Then press the DISK reset button located on the DISK Controller PCB (red cap). Check that the three conditions set out in paragraph 61.2.1. above are met. If not then repeat the process.

62 STATUS ROW ERROR MESSAGES

The following messages may occur on the Status Row.

62.1 | Limit of Travel |

This means that a movement of the Cursor, a character or a row has reached its limit. Places where this may occur have been described throughout the Operating Instructions.

62.2 | MEMORY FULL |

A font load operation has used up all the available Font Memory. The Fonts loaded may still be used but some part of the last FONT is likely to be missing.

62.3 | Invalid Command |

This message will appear:-

(1) When an inappropriate key has been pressed such as **START/STOP** when the machine is not rolling or crawling.

(2) When an attempt is made to change the colour which is permanently designated BLACK.

(3) When an attempt is made to change the foreground colour when the Cursor is in an area which is not preceeded by a space.

(4) When an attempt is made to INSERT TAB when the Cursor is to the right of the last Tab location.

(5) When an attempt is made to DELETE TAB when the Cursor is not sitting at a Tab location.

(6) If the LOGO key is pressed when the Cursor is (a) on the bottom of the page, (b) on the first character of a row, (c) immediately to the right of a page.

7) When **EOT**, **FLASH**, or **UNDERLINE** is pressed when the Cursor is not on a space.

62.4 KEYBOARD ERROR

A command has been received form the keyboard containing a format error (parity, framing or overrun). Note: this message may occur if **ENABLE TAKE** is pressed repeatedly indicating only that commands are being received faster than pages can be called down from the disk.

62.5 PORT ERROR

A command has been received from the port containing a format error (parity, framing or overrun).

62.6 INPUT ERROR

A command has been received which the machine does not recognise.

62.7 DATA ERROR

This occurs when **ENABLE TAKE** is pressed if a properly formatted page is not found at the current address. It also occurs during Font Loading if no font was found on the track selected.

62.8 DISK ERROR

The message may occur during any operation involving the Disk Drive. There are 4 types of error and the principal causes of each are as follows:-

(1) Seek Error

The page number or track number received was out of limit (1-300 or 1-99). The track or sector address on the disk did not verify indicating a possible disk corruption.

(2) Read Error

A data error was detected when reading data from the disk indicating a possible disk corruption.

(3) Write Error

The disk was write protected or an attempt was made to store a page in an area occupied by a font.

(4) Format Error

This occurs only during disk formatting and is fully explained in Paragraph 36.4. In most instances the type of error encountered will be indicated on the four error LED's situated on the front of the disk controller PCB.

62.9 Disk not ready

This message may occur during any operation involving the Disk Drive and

indicates one of the following:-

    (1) There is no Disk in the Drive.

    (2) The Disk is incorrectly placed in the Drive.

    (3) The Drive Unit door is open.

62.10 DMA ERROR

A problem exists in the interface between the Editor Processor and the Disk Controller.

62.11 Tab Found

The message occurs if a Tab mark was found during a centring or justifying operation. The row/rows containing the Tab will not have been moved.

63. FURTHER OPERATIONAL NOTES

63.1 *RE-LOAD OF FONTS BEFORE PROGRAMME OR RECORDING*

Because of the possibility of inadvertent corruption of the fonts loaded in the font memory, it is always advisable to re-load the required fonts before the actual start of a programme or recording.

63.2 *PREPARING A PAGE BEFORE COMPOSING*

To avoid previously stored random row heights and foreground or background colours affecting the composition of the next page, it is normally good practice to prepare for the page by preselecting the smallest font, the main foreground colour and, less importantly, the background colour to be used before selecting PAGE CLEAR. It is also common practice initially to select foreground colour 2 and background colour 8, and the "Work Inwards" if further colours are required. The reason for selecting foreground colour 2 rather than colour 1 is to allow for coloured edging (see section 35 on page 22).

63.3 *'LOSING' THE TRANSMISSION OUTPUT AFTER READING A PAGE CONTAINING NO DATA*

It is possible to "lose" the transmission output by accidentally selecting a page containing no data, i.e. a page that has never had data stored onto it. When such a page is selected, the data from the previous page will remain on display, so if PAGE CLEAR is selected and it is attempted to start composing a new page, there will be no transmission output.

The reason for this is that the colours previously used or read remain stored until they are changed using the ChromaStick facility or until they are reset. Thus if a page is read containing no data or colour information, the absence of colour is then stored and when a further page is composed, the transmission output remains at black.

To retrieve the colour, select Colour Reset (see Section 33 page 21) and then alter the colours as required using the ChromaStick facility, or if a series of pages is being composed with common colouring, reselect the previous page and clear this page down to start composing the next.

63.4 *COLOUR LOCK ONLY POSSIBLE IF COLOUR NUMBERS (STORES) ARE COMMON*

The Colour Lock facility (see Section 56 page 38) only operates if the same colour numbers (i.e. colour 'stores') area are used on all the pages of captions involved and when making the colour changes. For example, if a series of captions is composed and the colours of the whole series are then to be changed using Colour Lock, the same colours, say foreground colour 2 and background colour 8, should have been used for every caption and must also be selected when the alterations are being made, using the ChromaStick facility or a Numerical Entry (see Section 32 page 21).

63.5 *FOREGROUND COLOURING OR FLASH ON A 'CHARACTER BY CHARACTER' BASIS*

It is possible to colourise the foreground, or to select flash, on a 'character by character basis by introducing a space between each character (the space being required to store the colour or flash information). On smaller fonts the space can be hidden using the Character Overlap/Space Compress facility. On larger fonts, hiding the spaces will be less successful, but may still be acceptable.

63.6 ADJUSTING THE TIME DURATION OF A ROLL

The length of time taken by a roll can be increased by increasing the height of the blank rows in between the credits, using the vertical incremental row (δ row) shift facility.

The rows with credits should be left at minimum height, otherwise as they roll towards the top of the screen, they will tend to 'jump off'.

63.7 THE FONT EDITOR CARD

The optional Font Editor Card plugs into the Aston 3 Editor PCB and provides total control over the contents of a font disk. For example, unwanted characters can be deleted, characters from one font can be merged with the characters of another font, the key location of any character on the alpha-numeric keyboard can be changed, the baseline of a font can be lifted or lowered and the width of the display box of any character can be increased or decreased.

64. SHORT FORM GUIDE TO OPERATIONS/ SELECTIONS

NOTE: In this section, two button selections are listed in the form "FONT-C" indicating that the FONT key is pressed and held down and the C key then operated.

64.1 FONT SELECTIONS

OPERATION	KEY SELECTION
Font Load	FONT-L
Track Selection	PAGE NUMBER/TRACK - Number on Numerical Keypad
Exit from Font Load	FONT-X
Font Select	FONT-Number 14 on Alpha-numeric keys
Font Change	FONT-Alpha-numeric Key 5
Font Preview (Scan)	FONT-PREVIEW
Font Duplication	FONT-D (followed by track entries as required)

(Disk formatting:- Small black push button on Disk Control PCB next to Disk Drive Unit - see Section 36.4 page 24).

64.2 EDITING SELECTIONS

64.2.1 Cursor Shift and Carriage Return

OPERATION	KEY SELECTION
Cursor Shift	Arrowed keys contained within numerical Keypad i.e. 8↑, 2↓, 4←, 6→ and 5↖ (cursor home).
Carriage Return	←

64.2.2 Shift, Shift Lock, Space and Repeat

OPERATION	KEY SELECTION
Select Upper Case	SHIFT
Retain Upper Case Selection	SHIFT LOCK ('Delatched' by selecting SHIFT)
Normal Space	SPACE BAR (Also deletes character indicated by cursor)
Widest Numeral Space	TAB SPACE (Also deletes character indicated by cursor)
Repeat	REPT

64.2.3 Character Control, Edging, Italics, Underline, Flash and Logos

OPERATION	KEY SELECTION
Character Insert	CHAR - INSERT
Character Delete	CHAR - DELETE
Character Overlap (or Word Space Compress/Exand)	CHAR - ← 4 (or → 6)
Character Lift	CHAR - 8↑(or 2↓)
Edging	CHARACTER EDGING - Nos 1 to 4 on alpha-numeric keys (operates from cursor row down)
Italics	ITALIC (row by row)
Underline	UNDERLINE { To start/stop, select with cursor positioned in space before or after word(s)
Flash	FLASH
Single Logo	Keys [1] to [6] or as appropriate
Double Logo	Keys [1] to [6] or as appropriate, plus DOUBLE LOGO

64.2.4 Row Control

OPERATION	KEY SELECTION
Row Shift	ROW - ← 4, → 6, 8↑ or 2↓
Incremental (δ) Row Shift	δROW - ← 4, → 6, 8↑ or 2↓
Row Centre	ROW - CENTRE

OPERATION	KEY SELECTION
Row Insert	ROW - INSERT
Row Delete	ROW - DELETE (operation from cursor position right)
Row Clear	ROW - CLEAR
Row Compress/Expand	ROW - ←4, →6 (operation from cursor position right)

64.2.5 Page Control

OPERATION	KEY SELECTION
Page Centre	PAGE - CENTRE
Page Delete	PAGE - DELETE
Page Clear	PAGE - CLEAR
Page Up/Down	PAGE - 8↑/ 2↓
Justification	PAGE - ←4, →6 (operates from cursor row down)

64.2.6 Tabulation

OPERATION	KEY SELECTION
Move to next Tab	TAB
Insert Tab	INSERT - TAB
Delete Tab	DELETE - TAB
Clear Tabs (except first)	CLEAR - TAB

64.2.7 Colour Control

OPERATION	KEY SELECTION
Background Colour Select	BACKGROUND COLOUR - Nos 1 to 8 on alpha-numeric keys (operates from cursor row down)
Foreground Colour Select	FOREGROUND COLOUR - Nos 1 to 8 on alpha-numeric keys (position cursor on word, or in space before word)
ChromaStick - Foreground or Background	FOREGROUND/BACKGROUND COLOUR - alpha-numeric key No 9 (the colour to be changed will be as displayed on System Status row)
Numerical Entry - Foreground or Background	FOREGROUND/BACKGROUND COLOUR - "=/-"key followed by No. entry on numeric keypad. NOTE: EOT to exit from this mode.

OPERATION	KEY SELECTION
Colour Reset	FOREGROUND/BACKGROUND COLOUR - alpha-numeric key No 0
Coloured Edging	Use colour 1 with colour 2 or 3 as foreground.
Colour Lock	(see Display Selections)

64.3 *READING/STORING PAGES*

OPERATION	KEY SELECTION
Page Selection	PAGE/NUMBER/TRACK - Number on numeric keypad or page + or - keys
Reading a page	ENABLE - TAKE (or SUBTITLE IN key only)
Recording a page	ENABLE - STORE
Next Page Preview	ENABLE - PREVIEW
Page Reveal	REVEAL (with suitably prepared page)

64.4 *DISPLAY SELECTIONS*

OPERATION	KEY SELECTION
To select normal Display Mode	DISPLAY MODE - alpha-numeric key 1

64.4.1 **Delayed Cut**

OPERATION	KEY SELECTION
Select Delayed Cut	DISPLAY MODE - alpha-numeric key 4
Speed (Delay)	SPEED - Nos 1 to 4 in numeric keypad

(Page selection and reading as normal)

64.4.2 **Zip**

OPERATION	KEY SELECTION
Select Zip	DISPLAY MODE - alpha-numeric key 2
Speed	SPEED - Nos 1 to 4 in numeric keypad
Start Zip	ENABLE - TAKE (or SUBTITLE IN key only)

64.4.3 **Roll**

OPERATION	KEY SELECTION
Select Roll	DISPLAY MODE - alpha-numeric key 5
Speed	SPEED - Nos 1 to 4 in numeric keypad
Start/Stop	START/STOP key

64.4.4 Crawl

OPERATION	KEY SELECTION
Select Single Row Crawl (right to left)	DISPLAY MODE - alpha-numeric key 6
Select Two Row Crawl (right to left)	DISPLAY MODE - alpha-numeric key 7
Select left to right Crawl	DISPLAY MODE - alpha-numeric key 8
Speed	SPEED - Nos 1 to 4 in numeric keypad
Start/Stop	START/STOP key

NOTE: Ensure that crawl row has sufficient height for font(s) to be crawled. See Section 49 page 33).

64.4.5 Automatic Stop / End of Text Marker

OPERATION	KEY SELECTION
Insert Auto-Stop Mark	EOT (End of Text key)
Delete Auto-Stop Mark	(Use space bar as normal)

64.4.6 Miscellaneous

OPERATION	KEY SELECTION
Subtitle Mode	DISPLAY MODE - alpha-numeric key 3
Port Mode	DISPLAY MODE - alpha-numeric key 9
Colour Lock Mode	DISPLAY MODE - alpha-numeric key 0 (Locks newly chosen colours on successive pages assuming same colour numbers or 'stores' used)
Caption Boxing	Use FLASH key to Start/Stop box (NOTE: Set FLASH/BOX switch on Timing PCB to Box)
Transmission On/Off	TX ON/OFF